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D. K. MINOR, Proprietor.] FOR AUGUST, 1833. [SAMUEL FLEET, Editor.

ORIGINAL COMMUNICATIONS.

The Difference between the Old and the New Methods of managing Yard Dung. By One of the New School. [For the New-York Farmer.]

In the June number of the Farmer, you have published, Mr. Editor, Somerville's directions for managing a dunghill, and have superadded your own opinion, that "manure remaining any *considerable time* trodden down in *excess* of wet, is very destructive to its nutricious properties." Although your opinion is guarded with Yankee caution, and may be construed to mean one thing or another, yet it is obviously intended to give a preference to the old over the new system of managing manures, of applying them in a rotted, and not in an unfermented state, to the soil. As this question involves considerations of deep interest to the farmer, I propose briefly to point out the difference, in point of profit, between Robert Somerville's method and that which is recommended by "distinguished agriculturists."

Robert Somerville was a surgeon, and for a time an agricultural editor, in the last century, and died thirty years ago. His system of managing dung was the popular one at his day; and he, probably, had about the same opportunity of testing his theory by practice that the editor of the New-York Farmer now has. The object of Mr. Somerville's plan is to *promote fermentation*, or in other words to hasten the rotting of his dung, ere he considered it fit to apply to the soil. The fact was not then accredited, but has since been amply demonstrated, by science and practice, that in this rotting or fermenting process, dung loses fifty per cent., or one half, of its fertilizing properties, and that if the process of fermentation takes place, as it readily will, if applied broad-cast, in our tillage grounds, during our ordinary summers, this fifty per cent. which is wasted in the yard or stercorary, is retained by and fertilizes the soil. In other words, that a given quantity of dung will enrich a field twice as much, when rotted in the soil, as it will when previously rotted in the yard or stercorary. Hence the study, in *modern* days, has been to *save* this better half of the dung, by keeping back, or retarding fermentation, until it is buried in the soil. Hence the hollow yards, the retention in them of water, and the treading of the mass, by cattle, pigs, and poultry, *to keep down the temperature*, and to *prevent the access of air*—heat and moisture being the agents of putrefaction. I verily believe that a mass of manure, accumulated during the winter months, and applied as it should be to the summer hoed crops, is fifteen per cent. better for being trodden in the yard, by the cattle, and well saturated with moisture, because these *prevent* fermentation. What it was Somerville's object to *promote*, it s our object to *prevent*. Hence the marked contrast between the old and new method of husbanding the food of our plants. He wished the process of digestion to be conducted above ground, when the atmosphere took the volatile half; we wish this process to go on in the soil, when the volatile half is arrested, and retained for the wants of the crop. It was the old practice, and is yet the practice with many, to boil tea and coffee an hour or two, to make it strong and go farther. Now it is well known that the boiling process dissipates the aroma and very much of the essential flavor of both. The gasses disengaged in the fermentation of the dung are to the plant what the aroma of tea and coffee are to man.

Mr. Somerville's plan of a dunghill is excellent under the old system, because it saves a *part* of the loss which would otherwise ensue from fermentation; yet it does not save the better—the gaseous part. And the fact should not be concealed, that the greater the mass under the influence of heat and moisture, the more violent the fermentation, and consequently the greater the loss in nutricious matter.

To afford the practical farmer an opportunity of testing the value of the two modes of managing manure, if he has doubts on the subject, I recommend that he carts, say ten loads, next spring, from his barn yard, where it has been trodden on, to half an acre of his corn or potatoe field, spread and plough it in while wet, and take other ten loads to a roofed dung-pile, to undergo the fermentating process during the summer, according to Mr. Somerville's plan: and in September, let him take his ten loads, or the moiety that remains of it, and apply it to half an acre of wheat, adjoining the corn or potatoes already dunged, and sow the whole acre with wheat. Now I venture to say that the ten loads which have fed his corn or potatoes, and doubled their product, will do as much good to his wheat, nay more, than the ten loads which have lain in the roofed dung-pile, undergoing the digestive process, without fertilizing aught but the atmosphere.

One of the New School.

Remarks.—We have too much respect for the writer of the above to retaliate relative to our respective situations for obtaining practical information. If he is more eligibly situated, we shall expect him to decide by experiment before we shall, whether "manure remaining any considerable time [six to nine months, laying aside our "yankee caution,"] trodden down in excess of wet [or ponded,] is very destructive to its nutricious properties." We shall not be satisfied with his "I verily believe," but must have experimental proof—*quod erat demonstrandum*.

Our remarks at pages 168 and 176 are wholly confined to the subjects of water remaining a considerable time on the manure, and of a wall protection around the manure, consequently the assertion that we "obviously intended to give a preference to the old over the new system of managing manures—of applying in a rotted, and not in an unfermented state," is entirely gratuitous; and the contrast drawn by the writer between the knowledge of scientific men in Mr. Somerville's time and that of modern days, implies a forgetfulness of the brilliant discoveries then, and previously, made in chemistry, and of the spirit that was excited in applying these discoveries to the operations of nature. Mr. Somerville's essay clearly proves that he was well acquainted with the chemical changes which take place in manure; and admitting that his doctrine is contained in the two following extracts from his essay, "One of the New School" cannot, with modesty, claim the above hollow yard system as exclusively that advocated in modern days. Mr. S. says it is of the utmost importance to have "dunghills so situated and constructed as to promote fermentation, and preserve the useful particles contained in the dung, *both while the process is going on and after it is finished*," and the "manure may be increased by laying a layer of earth, leaves of trees, or any other suitable substance, on the bottom; and similar layers may be laid throughout the dunghill, the moisture passing through them, the same being returned from the reservoir, will completely saturate them; the entire will undergo a fermentation, and produce a vast quantity of manure." On the supposition that the above extract, without any reference to the economy of his mode, contain Mr. S.'s doctrine, we confess we give it the preference to that of allowing the manure to soak in rain water, and the liquids of the yard for half the year, and then applying it directly to the land, for the following reasons:

1st. There is a greater certainty of the crops being benefitted. Certainty is of great importance in farming.

2d. It is more easily applied, and more uniformly incorporated with the soil.

3d. The action on the crops is immediate, and when the soil, or the materials used in the compost, are of a nature retentive of the gases and salts, and of moisture, the fertilizing properties are by no means exhausted, on the first or second crop. The rains dissolve the gases and salt, and bring them into contact with every particle of the soil.

4th. The quantity is very greatly increased, without *any loss* of the original quantity made in the stables and yards.

5th. It promotes industry in accumulating substances for manure. There are many substances that are valuable when fermented in the compost heap, that are injurious or of no service when applied in an unfermented state.

We have objections to the soaked and unfermented manure for the following reasons:

1st. There is reason to believe that an injurious effect is produced, from the fact that the color of the straw, and other vegetable substances that have been so long soaked, is changed; and that similar substances rotted

in water without fermentation, are very difficult, or cannot be made, to ferment.

2d. The coarseness of the manure renders it almost impossible to cover it to that depth which will give it the requisite portion of moisture and air to produce a uniform fermentation. A part will be too deep; some very slightly covered will ferment and have a great portion of its gasses carried off with the evaporated moisture.

3d. The time of its action or fermentation is uncertain, depending very much on the heat, dryness and wetness of the season; and applied to some crops, to corn in the hills, for instance, it is beneficial or injurious according to the season. In ploughing corn and potatoes this coarse manure is often brought to the exposure of the sun, consequently its use in this state is an unscientific or random method of farming.

5th. It is a very great source of noxious weeds, and of diseases to the grain. A farmer who is careful to destroy every injurious plant on his farm before it goes to seed, may, by keeping a friend's horse over night, by introducing to his yard stock from other farms, or in buying hay or seed grain, sow that which will cause him much trouble, and give him a smutted field of wheat.

5th. When coarse manure is applied in the spring, if the weather is cold until June or July, and then suddenly become hot, the fermentation is very rapid, tending, particularly if dry weather succeed, to overheat, and produce sickliness.

Let none of our readers suppose that in giving preference to the compost system, that we disapprove of the plan of collecting the manure in the centre of the yard, compared with the slovenly practice pursued by many farmers of suffering it to be repeatedly drenched and more or less fermented in the yard, then carted out into a heap, and left to ferment and waste its nutritive properties in the air. Over such a practice the centre-yard system has every thing to recommend it.

In reference to a wall or protection around the manure heap, the remaining subject of Mr. Somerville's plan which we recommended, we do not, upon reflection, think it would be any great improvement to Dr. Hosack's stercorary, which so well shades the manure and leaves it so slightly exposed. This would depend, however, on the height to which the manure is allowed to accumulate above the surface of the ground. But on the compost system, we deem a wall, or something that will produce shade, and at the same time protect it from dry and chilling winds, of importance. Independent of the reasons assigned by Mr. S. for a wall, we should suppose the shade produced by it would tend to cause the manure to attract carbonic acid gas, a supposition at least apparently justified by the following *most modern* doctrine, "Soil overshadowed by thick leaves is good, from its attracting carbonic acid vapors, and preventing their escape." (Pro. Rennie.)—If the soil is enriched by the shade produced by such crops as potatoes and turnips, and exhausted by such crops as do not afford shade—if wheat thrives better when clover protects the soil from the sun, —we should think manure, particularly compost, to be benefitted by being carefully shaded.

This subject, fermented compost and unfermented manure, we deem of importance, and will cheerfully give insertion to communications.

Rotation of Crops in Europe and America.
By SENEX. [For the New-York Farmer.]

MR. EDITOR,—The subject of rotation of crops has been but slightly noticed in the Magazine since I had the pleasure of becoming a subscriber, a few observations thereon may therefore be not out of place. The subject is not new in this country, but, so far as I have observed, is in a variety of instances rather too little attended to in practice. Farmers often appearing to regulate their cropping by contingencies, rather than steady principles—this is apt to lead to wasting of the soil by overcropping, an error tedious or expensive to remedy. It gives me pleasure however to observe that this subject appears at the present time to receive increasing attention. Clover is now much more extensively sown in my neighborhood than it was twelve years ago, when I commenced farming in America, and its increased cultivation appears evident in the other districts I have had an opportunity of seeing. This I consider as a sure criterion of improving husbandry. It is only by judicious courses of cropping that land is preserved in a fertile state, while at the same time it is made to yield the greatest increase with the least expense. On this account a suitable rotation has by some been considered as of more importance to the farmer than manure: this may admit of dispute, but it may be safely asserted to be one of the most important departments of agriculture, without a competent attention to which there can be no good husbandry. I conceive there is no branch of the art more necessary and important for young farmers to be well instructed and informed in, than rotations of crops and the principles on which they ought to be founded.

My intention however is not to write a treatise on the subject, but only to hazard a few remarks relative to European and American courses.

In the best cultivated districts of Europe, or rather of Britain, I believe I ought to say, the rotations most suitable to each have been ascertained by long practice and a variety of experiments—they have also been recorded, and their merits discussed in a variety of agricultural essays before the public: the practice of each has therefore become pretty uniform. In this country also much valuable information has been communicated through the press in every department of agriculture, yet as regards the courses of cropping in actual practice in particular districts, or even by individuals, there appears deficiency of information.

In Great Britain a turnip crop is the foundation of the rotation on all light soils; they are raised on a very large scale, the whole manure on the farm being applied to that purpose, and the dependance of the farmer for fattening stock for the butcher is almost wholly on this crop. The raising of turnips has often been recommended to the American farmer for the same purpose, and as a means of saving much corn, but as yet I believe with little or no effect; perhaps the labor and expense of winter storing them may be too great here. The British winter is generally so mild that storing is seldom necessary, and never but very partially used; here it would be necessary every winter, and if in pits like potatoes, they would be inaccessible from December to April nearly; such a quantity as could be saved conveniently in this way, or even in a cellar, would be extremely valuable for ewes and early lambs in April. It is not probable, however, that turnips will be very extensively raised in the state of New-York. Indian corn will naturally be the favorite fallow crop, and the foundation of the rotation on all our light soils. The Flemish mode of raising turnips after grain crops, in cases where grass seeds are not sown along with the grain, has been recommended by some of the best American writers on agriculture, yet I know of no instance of its being accomplished; the practice appears quite practicable in this country, where the grain crop could be removed by the middle of July, and likely to be attended with considerable advantage, as affording a quantity of valuable provender either for storing or fall feeding. My soil is by no means favorable for turnips; yet as I keep a considerable flock of sheep, I have often wished to give this mode a trial, and here state the causes which have as yet prevented it: in the first place, the preparation of the ground for the sowing of turnips always has happened with me in the busy time of hay and grain harvest, when the whole strength of men and cattle is required for the indispensable work of securing these crops, the safety of which could hardly be risked for the chance of the turnip. Secondly, by the time the hay and grain crops are secured, it is generally too late to sow turnips; but if not, the working of the wheat fallow, and hoeing of the corn, again interfere, and require all our hands and cattle; these occurrences have always prevented me from ploughing even a few acres on which to sow turnips broadcast, and without manure, for the chance of obtaining a little fall feed for sheep. I am persuaded however that this might be accomplished here on a light early soil, where fallow is not requisite; it is a regular practice in certain districts in Flanders, and has been occasionally done in some of the southern counties in England, though I believe there it is not in general use.

In the best cultivated districts of Scotland and England, fallow forms the commencement or foundation of the course of cropping on clay or all heavy soils unfit for turnips. A complete summer fallow is well known to be one of the most expensive common operations of husbandry, requiring an extra strength of men and horses to be kept on account of it. The expense has been computed at five to six pounds sterling per acre, and even higher. This ancient practice, which has been in use in a great part of Europe for time immemorial, has often had its enemies as well as its advocates; it cannot be denied that it has been used in many places improperly and unnecessarily; its advantages and disadvantages however have been amply discussed, and the practice of the best improved districts in Britain seems to have established it there, as indispensable in the cultivation of all strong clays and heavy loams; no occupier of a clay soil was ever an anti-fallowist—long experience having shown them that such soils cannot possibly be preserved in a clean and productive state without recourse to this process occasionally, though quite unnecessary in lands of a different description.

We too have our fallows on all descriptions of soil, that is, we prepare our land for wheat by two, and sometimes, though seldom, three ploughings, generally between the first of June and tenth or fifteenth of September. This fallow therefore can have but little effect in cleaning the ground, its design is rather to break the sod and partially pulverize the soil, and this latter purpose does not appear necessary in a very great degree. I have observed that two ploughings often answer this purpose

as well as three; it may therefore be said, that a thorough or complete summer fallow is not at present in practice in America, neither is it probable it will soon come into fashion on account of its expense. American writers on agriculture, at least all that I have had an opportunity of consulting, appear to be anti-fallowists—they seem to think there is time enough here after harvest to clean ground sufficiently. This I take to be a mistake; in my humble opinion, there is not time enough. I find that land gets foul here just as soon as in Britain, and that it is not in any respect easier to clean or keep clean; and I strongly suspect those who have got their lands full of chess, cockle, Canada thistle, and other bad weeds, may find it difficult, if not impossible, to get clear of these pests without having recourse to this radical remedy. This however is only an opinion—I cannot speak from experience, not having as yet had resolution to incur this expense, although some of my land stands much in need of it. I think it probable however, the expense may prevent the use of summer fallow for some time, but I venture to predict it will ultimately come in; at present it may be safely said that most of us farmers keep more land under crop than we can do justice to, and there are many circumstances tending much to prevent this system from being suddenly relinquished—it will be done gradually—it must have time; but there is little doubt we will ultimately find that, by proportioning our tillage or quantity of crop more to the quantity of manure we can command than we do at present, more profit will be obtained and at less expense.

Yours, &c. SENEX.

Saratoga county, 18th May, 1833.

New Species of Clover—Trifolium incarnatum. By X. [For the New-York Farmer.]

I admire, Mr. Editor, your discrimination and your liberality. You copy an article, page 166, for the manifest purpose of cavil, from the Genesee Farmer, and to give point to your remarks, gratuitously impute it to the pen of an individual. The extract states that a new species of clover, *Trifolium incarnatum*, has *recently* been introduced into British husbandry. And you ask how can it be said to have been "recently introduced" when it is *known* to have been introduced into Britain as early as 1596? Now, sir, your proof! Here it is—Loudon says, "Trifolium incarnatum, an annual of Italy, has been *recommended* by an Italian Professor, to Sir John Sinclair," &c. And pray, Sir, what does this prove? Are *recommended* and *introduced* convertible terms? Because I recommended to my friend ten years ago to take a wife, does it authorize you to say that this same friend was married ten years ago? Loudon does not say that even Sir John Sinclair either received seed, or raised plants, much less that the Trifolium incarnatum was introduced into British husbandry. I rejoice that my friend Prince has been enabled to throw "more light" on your mind, though I confess I have not been enabled to discover any *material* difference between his letter and the article you have commented upon. X.

REMARKS.—Had we more particularly noticed the difference between "introduced into British *husbandry*," and merely "introduced into Britain," we should probably have made our remarks less unsatisfactory to X. Our proof of its having been introduced in 1596, did not rest on the quotation made above by X. For the proof of this, we refer him to Loudon, and Sweet's Hortus Britannicus. The quotation, of which X. has only given a part, was designed to show by whom this species of clover was recommended, and by whom it was spoken against. Now, we suppose very few would have thought that we designed any disrespect, or to cavil, when we gave the name of an individual whose recommendation is of acknowledged weight. If this clover was found "in our (British) garden borders, not to have one-fourth the vigor of common clover," either Sir John, or others, must have received seed.—[ED. N. Y. F.]

To destroy the Canada Thistle. By W. W. POWELL. [For the New-York Farmer, and American Gardener's Magazine.]

MR. EDITOR,—Your Farmer of this month has just come to hand, in which I perceive an inquiry by A. K. B. respecting the destruction of that pest, the Canada Thistle. Many plans for the attainment of that object are already before the public, but there is one which I do not recollect to have seen published. It was mentioned to me by an aged man, who has had long experience as a farmer. He assured me that he had frequently tried it, and had not in a single instance failed of success. The plan is, to mow the thistles immediately after a *honey dew*. This information being recent to me, has deprived me of the opportunity of testing its truth by actual experiment, but shall do so as soon as an opportunity is afforded. When the honey dew has fallen, may be known by touching the tongue to a leaf which is wet with it. Every farmer probably knows that honey dew is sweet; let them try the experiment, if it should prove successful, it is an easy way of extirpating what every farmer should wage war with, until this enemy, so very tenacious of life, is completely routed. Respectfully,

WESTEL W. POWELL.

Milton, Saratoga county, June 18, 1833.

Simple Apparatus for Preparing Silk Cocoons for Reeling. By R. M. W. [For the New-York Farmer.]

Mr. Brewer's suggestion about reeling silk, is an improvement on the usual practice, but I think is yet susceptible of amendment. Make a box 12 inches square, 2½ feet long, of inch boards, put on a bottom and bore 4 or 6 holes near the edges, on the inside lay a square board smaller than the bottom by an inch all round the sides; cover the spaces between the sides and false bottom with tin, with small holes punched like a lantern, then put on the cover with hinges, which cover should be forced with a small gimblet in squares of one inch; take a coffee pot, put in it half a gallon of whiskey, or any cheap proof spirits; set the coffee pot on some live coals and the spirit will soon boil, and the steam will pass off through the spout, and may be easily led into the bottom of the wooden box. Let the box be filled with cocoons, and the hot steam thrown on them; it will soon kill all the millers, and dissolve the gluey matter of the cocoons, which will reel much better than from the water-bath. The steam of the spirits is a much greater solvent than water; the holes in the cover will lead the steam through the box, and the tin and holes at the bottom will allow any water to escape, which may be condensed during the operation. I hope yet to see the silk culture and reeling very extensively attended to in our country, and think much improvement will be made after a little experience. Yours, &c. R. M. W.

Potter, July 4th, 1833.

To destroy Rats and Birds. By R. M. W. [For the New-York Farmer.]

MR. FLEET,—Take 2 ounces of Nux Vomica, bruise it in a mortar, pour on it one gallon of boiling water, and let it stand 12 hours, frequently stirring it—then pour into this liquid a peck of wheat, rye or corn; let it stand 12 hours longer, then scatter the corn in places frequented by mice, rats, squirrels or birds, and I presume we shall not soon hear of their depredations again. The Rev. Mr. Decrue, of the Georgical Dictionary, recommends one ounce of the seed of Cicuta, and I believe any part of the plant will answer the same purpose if treated in the same way, and it will prove an effectual remedy against the evil.

Yours, R. M. W.

Potter, July 1st, 1833.

Retrospective Criticisms on the First Series of the New-York Farmer. By the EDITOR. Vol. I. No. 6.—[Continued from page 164.]

SENECIO OBOVATUS, OR SQUAW WEED POISONOUS TO SHEEP.—This is a valuable paper, communicated by Mr. Elam Tilden, of New-Lebanon, N. Y. A particular field had long been considered to grow some plant of a deadly nature to sheep. Disregarding the report of Mr. Tilden, soon after a rain, turned in 100 large healthy wethers. In 36 hours some were dead, and the whole flock more or less diseased. On dissection the flowers of the Senecio obovatus were found in their stomachs, which were corroded, and the inner coats of which, after the sheep had been dead awhile, peeled off with the contents. The intestines were filled with a black glutinous substance; and the excrements of those that recovered had the appearance of tar. The bladders contained no water, and were tough, like par-boiled flesh. The usual remedies for poison were applied, milk mixed with clay, lard, molasses, &c. Spirits of nitre were also used with success. To ascertain the certainty of the cause, a sheep was fed with the flowers, and died in ten or twelve hours.

This plant, as well as many others going under the name of Squaw Weed, particularly Erigeron Philadelphicum, is in repute as an Indian specific. It is quite an ornamental plant, with a flower having some resemblance to a small sun-flower. It grows from twelve to fifteen inches in height, having inversely egg-shaped leaves at the base of the stem, with notched margins. The foot-stalks or stems, which support the flowers, are long, and arranged not unlike the sticks of an umbrella. It flowers in May and June.

CATAWBA WINE.—J. Adlum, Esq. of Columbia District, in transmitting a bottle of this wine to Dr. S. L. Mitchill, observes that, "all wines from our native grapes have one quality, I believe peculiar to themselves, of warming the stomach, and moderately stimulating the system, (where no brandy is added,) and then passing off without affecting the head or stomach, or leaving any heat after it, and although it is sweet, it does not clog or produce any disagreeable sensation after drinking it, as far as six or eight glasses, which I have frequently tried."

LYTHRUM VERTICILLATUM.—This plant, known by the name of Swamp-Willow Herb and Grass Poley, in a communication from

Dr. Blatchly, to Dr. Mitchill, is believed by farmers to produce abortion in all animals that eat of it.

To Destroy Canada Thistles. By R. M. W. [For the New-York Farmer.]

Mr. Fleet,—If your correspondent A. K. B. instead of waiting for showers to pull up his Canada Thistles, will attend to them very early in the spring, just as the frost is out of the ground, and before the ground settles, they would come up very easy, and I believe he will effectually eradicate them. If they have stood long and been allowed to seed, the seed will come up when the ground is planted for wheat, but the young plants are easily destroyed with the hoe. I have tried this with the sourdock with complete success, and believe it will answer equally well for Canada Thistles, but it must be done early in the spring, before the ground settles. R. M. W.

Potter, June 29, 1833.

Deterioration of Fruit—Remarks on the Review of Mr. Floy's Guide to the Orchard and Fruit Garden. By J. J. [For the New-York Farmer and American Gardener's Magazine.]

Mr. Editor,—I perceive from your Review of Floy's edition of Lindley's Guide to the Orchard, that you are a decided advocate of Knight's theory of *wearing* or *running out*. You admit, however, that there are two opinions on the subject, and I rejoice to find that so far from being inveterately prejudiced in favor of the theory, your "columns are open to communications." This is as it should be: let us hear all that can be said on either side; give us all the light that can be obtained, for it is a subject of great interest and importance.

In making the few remarks which follow, you will believe me when I say, I enter not upon the subject because I seek controversy, —I seek truth.

The theory is, in few words, this—Fruits that have been, and continue to be, propagated by extension, that is, in any other way than by seed, will, in the course of time, deteriorate, and run out, or become extinct. I am thus particular in stating the point in dispute, because some persons have misunderstood and misstated it; nobody, as far as my knowledge extends, having ever pretended to controvert the opinion *adopted*, as you say, by Mr. Kenrick, that fruit trees have a limited duration, (Farmer for June, 1833.) The theory advanced, and the doctrine in dispute is: Fruits, varieties of fruits, when propagated by extension, beyond a certain indefinite number of years, grow worse and worse, and finally become extinct.

In ordinary cases, when persons advance a new theory in any branch of science, it is expected that those thus advancing it should substantiate it by facts, or arguments, or both, that on this should rest, if I may so express myself, the *onus probandi*. In the present case, however, it seems to be expected that those who doubt or disbelieve the truth of the doctrine, shall give their reasons for their incredulity, or lack of faith. Be it so. I disbelieve the whole of it, and if I may escape the charge of using "cavalierling slang," (by the way a new coined adjective, and an ungentlemanly noun,) I shall give a few reasons for this disbelief.

In the first place, then, the facts on which the theory is built, admitting them all for the sake of argument, are insufficient to establish its truth. What are these facts? Briefly these, some varieties of fruits of estimable quality have been observed, in different parts of Europe, to become annually less and less productive—so much so, in some instances, as to render their cultivation unprofitable, if not altogether useless. This was not the case only in some particular situation, or district, or county, but the same varieties were found to exhibit the same defects in different and widely distant places. Let it be borne in mind here, that no fault had been found with the quality of the fruit, thus grudgingly yielded: the flavor was not run out, nor had they deteriorated in richness or in succulency; so far from it, indeed, that Great Britain's two favorite apples, the Ribston and the Golden Pippin, both of which had commenced their downward course many years ago, are adduced by the Professors of Botany in the University of London so lately as 1832, not only as fruits of surpassing excellency, but, mark it, as instances of what had been, and might be done by well directed efforts at melioration. I had an opportunity myself in England but a few years since, of tasting and testing the excellency of these celebrated apples. The same remark holds good also with regard to fruits on the continent; several of the Pears so highly esteemed there, and indeed all over the world, but a few years since, are said to be either run out or in a rapid decline; it is not pretended, however, that the flavor of these fruit, or any one good quality, save its productiveness, is the least impaired.

M. Masson (himself a strenuous advocate of the running out theory) informs us that three species of these melting pears, once greatly celebrated, now sell from ten sous to two francs each: a proof, you will say, of their scarcity. Granted; but a proof also of their excellency, for I know enough of the Paris fruit-market to assert, that no pears, however scarce, will there bring two francs —no, nor ten sous—each, if not of surpassing excellency.

From this fact, the unproductiveness of certain varieties, added to the tendency to premature decay and early death, manifested by the trees of these varieties, Mr. Knight advanced the opinion that possibly fruits *might* have a limited duration only; that they *might* run out and become extinct, and because, to quote the language of Mr. Floy, in his edition of Lindley, "the subject was broached by a great man upon guess-work, every little one is ready enough to take it up as satisfactory and conclusive." I well recollect the cautious manner in which Mr. K. first advanced this idea, and marked how it became his hobby, on which, when firmly seated, in a few years, perhaps, became certainty, and probability was converted into assurance.

But let us look at the theory, and the facts on which it is built, if possible, with an unprejudiced eye, and ask, Are the facts sufficient to warrant the conclusion that has been drawn from them? I think they are not; because, first, there is no evidence that any one variety has thus become extinct. When I say there is no evidence, you will understand me as meaning that I have not met with any, in a horticultural life of some length and experience. If there be, however, some advocate of the theory will, doubtless, set me right in this matter, and this can be done by giving the name of any one fruit that has thus perished. But, secondly, the fact that the quality of the fruit thus deteriorating, or being run out, is not in the least impaired, is evidence that the doctrine is unsound, for if every variety has its limit, at or beyond which its productions will be, in the language of a French writer, "absolute nothingness," it would seem to follow, that this absolute nothingness, which is to ensue, must be either progressive or instantaneous; but it is not progressive, as we have seen above, the flavor of those fruits now *running out* being equal to what it has ever been, and if it be instantaneous, let the advocates of the theory give us the name of that fruit which has thus been lost, and the year in which this absolute nothingness ensued.

But again, it is admitted by the most strenuous advocates of the doctrine, that this tendency to running out in any one variety, is not equal in all latitudes, nor ever in a country of comparatively a few miles in extent. Thus we are told on the authority of Mr. Knight, than which there is no better where facts only are concerned, that varieties which appear to have commenced this retrograde course in the northern counties of England, are yet prospering in the southern and middle counties. Now I will not stop to inquire what is the boundary line between the northern counties, not of the little island of Great Britain, but of England merely, where varieties of delicious fruit are running out, and the middle counties, where the same sorts are still prospering; but I will ask this question—if any one fruit, by continued propagation, has arrived at zero (absolute nothingness), can it be that variety, of which, though every tree in my orchard has ceased to be as productive as formerly, yet is doing well in an adjoining county in the garden of my neighbor. I will go further, and submit the question, whether because some varieties appear to be on the decline in some places, is it legitimate thence to infer that vegetable productions have certain limits, beyond which they cannot be cultivated? But you will say—Some varieties are evidently less productive than formerly, and the trees appear in an unhealthy state in many places; and if I deny your theory, how is it to be accounted for? I did not intend, nor have I leisure at present, to go into a discussion of this question. At a future day I may avail myself of the privilege afforded by your columns, to attempt, satisfactorily and philosophically, to account for the appearance which the trees of some of our finest varieties have, in certain places, presented. But you have no right to ask me to account for any effect which has been produced, because I deny the truth, and prove (to my own satisfaction, at least,) the fallacy of the theory which you uphold and promulgate.

The object I had in view was to show that it is *not* a general law of nature; that beyond a certain limit, it is out of the power of man to continue a good variety of fruit in existence; and to proceed, if it were a law of nature, it would operate equally on all her vegetable productions. But it does not operate equally, for the willow (*Salix Babylonica*) has been propagated by extension ever since the children of Israel hung their harps on its branches, by the rivers of Babylon, and they are as green, and as thrifty, and as healthy, as ever they were.

But you will say—Our controversy is about fruits; and the willow bears no fruit. True, it does not. Let us then confine ourselves to fruit. If your theory be true, it will, at any rate, apply to all fruits,—at least, to all fruits that are propagated by extension. Now the

only fruit which at present occurs to my mind, as never having been raised in any other way *than by extension*, is the Black Currant. It is strange that there has never been any varieties of the Black Currant raised from seed." (Loudon *in loco.*)—If your theory be true, the black currant must long since have run, or, for a length of time, *have been running out.* But it evidently is neither the one nor the other.

In conclusion, my letter having already extended to a greater length than I intended, permit me to observe that it is an easy, an exceedingly easy matter, to raise new varieties of fruit, but to raise varieties superior, or even equal, to our old, well-known, and long-tried, and justly celebrated fruits, is altogether another affair—*hic labor, hoc opus est.*

Of an hundred thousand new varieties of Pears raised from seed by Van Mons, not one in a thousand was worth cultivating, not one in ten thousand was of sufficient merit to enable it to rank with the more generally cultivated varieties, and probably not a single one will eventually be extensively cultivated, as a fruit of first rate excellency. Now, keeping these facts in view, together with the general rage for novelty, which prevails with regard to fruits, equally with other things, and the highly colored and often false character given to new varieties, by those who raise them, and those who expect to profit by their sale, does it not appear to be a matter of more importance to preserve fruits of high repute in both hemispheres, than to foist into their places a new progeny of varieties, the only guarantee for whose excellency is the opinion, correct or not, of those who raised them? Or, shall we abandon our choicest varieties of fruits, give them up throughout the whole length and breadth of our land, a land embracing every variety of soil and climate, because, forsooth, in some unpropitious spots they appear to be, as the phrase is, *running out.* In a word, because a fruit does not appear to do so well as formerly, in the vicinity of Boston, for instance, does it follow that its cultivation must be abandoned at once and for ever, in New-York, Pennsylvania, and Ohio?

J. J.

Remarks.—We hardly think J. J. is authorised to say we are a *decided* advocate for Mr. Knight's theory, from what we have written. We think much may be said in its favor, and repeat what we have said before, "Time and future observation can alone determine its truth."—[Ed. N. Y. F.]

Rise and Progress of Agriculture in Scotland. By Senex. [For the New-York Farmer and American Gardener's Magazine.]

Mr. Editor,—In the Magazine for June, page 161, a letter, by H., contains some strictures on my communication regarding the improved husbandry of Scotland, which claim a passing notice from me. H. says, "After reading my letter, any one might believe that good farming was universal in Scotland, when, in fact, it extends to a few of the southern districts only." As to this, whatever impressions it may have conveyed to H., I can say, after a careful perusal of it again, that I can find no reason to retract, or alter materially, a single statement contained in it. In giving a brief sketch of the rise and progress of improved husbandry, it did not appear necessary to state that some spots or small districts are to be met with, naturally so barren and wretched, (to use H.'s expression,) as to be quite unsuitable for a respectable farmer to occupy or settle on. Scotland contains much of this; almost the whole of the west and north Highlands may be considered as of this description, and even in the low parts of the country, tracts of this description are found in every county, having the arable land in small and detached pieces, unsuitable for farming on a respectable scale. The occupiers of these patches cannot be denominated farmers, though many of them manage their small portions well, and in many instances have greatly improved them; yet they afford no fair or sufficient data, whereby to form any estimate of the state of agriculture; it would indeed appear incredible that careless or imperfect practices should not take place in such circumstances.

As to good farming extending over only a few of the southern counties, I beg leave to assure H. that he is altogether mistaken. I am well acquainted with all the country between Edinburgh and Inverness, but more particularly so with the counties of Forfar, Kincardine, Aberdeen and Banff, in each of which H. will now find a great number of farms in a high state of cultivation, and under as correct management as any in Scotland. I have also the best authority for stating that improved husbandry, in various instances, has found its way through the other northern counties, even to Cathness, and the shores of the Pentland Firth. There, it must be owned, its introduction is of more recent date, and of course it is not yet widely spread. A variety of other circumstances connected with this subject might be stated, but it is unnecessary. H. appears to feel hurt that the husbandry of Flanders or Scotland should be represented as equal or superior to that of Old England. It may, perhaps, afford him some satisfaction on this head to acknowledge the justice of his remark, that Scotland is indebted to England for its improved husbandry, as well as for its best breeds of horses and cattle. I need not be surprized if H. should treat my statements a little cavalierly, after seeing how unceremoniously he handles Sir John Sinclair, and others of our Scotch agricultural worthies. Farther discussion of this subject is quite unnecessary.

Senex.

July 2, 1833.

Imported Sheep and Swine. By S. T. [For the New-York Farmer, and American Gardener's Magazine.]

Mr. Editor,—I am glad to find in the Genesee Farmer a notice of the imported stock of our worthy neighbor, Mr. S. Hawes, who, some time since, purchased the farm owned by Judge Spencer. I send you the extract, with an accompanying note.

"Among other stock, many sheep have been at different times brought to this country from England; of late years these have generally been long woolled, that is, Leicesters, or their crosses, and some few Lincolns. Leicester sheep, here called Bakewell's, undoubtedly stand at the head of the long woolled breeds of England, all of which have a portion of Leicester blood in them, and are found generally on rich, level lands. Equally at the head of all the short woolled sheep of the island, are the Southdowns. These were once confined to a small district in Sussex, but for full forty years have been rising in favor, and on hilly lands of second rate fertility have proved themselves superior to all other breeds. In Surrey, Wiltshire, Berkshire, Hampshire, and Hertfordshire, they have driven out the old kinds, being hardy, quiet stock, good nurses, fattening kindly, and, when fat, bringing the highest price in Smithfield market. There they are worth one penny sterling, or two cents, the pound, more than Leicester mutton, because the lean meat of the latter wants flavor, and the fat of it being more than can be eaten, is nearly so much waste. In Smithfield the term Down is applied generally to the Sussex and Hampshire kinds. The first, or real Southdown sheep, have been, by long continued attention, improved in shape, have been brought to fatten early, and to give a good fleece of wool. They are handsome sheep, their ears and noses fine, their faces and legs clear of wool. They are in a mild climate, but when taken to the bleak down lands of Hampshire and Wiltshire, the selection was made for hardiness and weight, so that two varieties of these sheep are now established. The Hampshire Downs have thicker skins and heavier fleeces; have more wool on their legs and faces; they are larger, especially in their hind quarters; have more bone, broader noses, and thicker necks. The Southdowns may be described as more high bred, handsome sheep; the Hampshire downs as more proof against cold and wet, though neither kind is proof against bad keeping, but would rapidly degenerate, as some Leicesters have done, in the common mode of wintering sheep in the United States. Both kinds may be adapted to different districts of this extensive and varied country.

"S. Hawes, now living near Albany, brought with him in October, 1832, ten Hampshire down ewes, one Hampshire down tup, and one Southdown tup, the latter bred by Mr. Coke, of Holkham. The ewes were full mouthed, the tups were lambed in February, 1832. These ewes were picked out from a lot of one hundred and twenty very superior ewes, which were worth nearly twice the price of common Downs. In the spring of 1833, his friends in England shipped for him ten Southdown ewes, lambed early in 1832, one of which was lost on the passage, but the other nine have done well. The ten ewes brought in October had fifteen lambs from January to March, three of which died.

"He has also some excellent swine from Berkshire, England, similar to what are called the grass breed here. They are thick, short legged animals, such as may be killed at any weight from twenty-five to seven hundred pounds."

Note.—It should be added, that the Southdown wool is finer than that of the kindred variety, and that the fleece is somewhat lighter. For many years these sheep have been favorites in England. Gentlemen buy them for their parks, and farmers for their turnip fields and grass lands; very high prices are given for superior tups, at annual sales held for that purpose only. In the beginning of this month some superior Hampshire down sheep were in Albany, on their way west, the property of Mr. J. Parsons, an English farmer, going to live near Rochester. He had lost at sea one tup, but had two capital ones left.

July 19, 1833.

Messrs. Prince's Garden.—Dear Sir: In the concluding paragraph of your account of a visit to our Garden, you speak of the *old buildings not painted, &c.* In so doing we think you have not been *sufficiently explicit.* There are two large old barns, to be sure, but all the other

buildings are in the best order, and mostly new, and all well painted; in fact, nearly all have been built within seven or eight years.

Yours, &c. WM. PRINCE & SONS.

Linnæan Botanic Garden,
June 29, 1833.

Manufactures of Manchester—Visit to Chatsworth, the Seat of the Duke of Devonshire. By B. P. [For the New-York Farmer.]

(Continued from page 108.)

The town of Manchester (for although it has a population of 100,000 and upwards, is still a town,) contains manufactories, principally of cotton goods; though, in the neighboring towns, all the different kinds of cloth, &c. are got up, so that Manchester is headquarters for purchasers of all descriptions of cotton and woollen fabrics. To attempt a description would be worse than useless. Any one, however, that would expect to see in one of those establishments the raw material taken in, and the goods in a finished state turned out, would be disappointed; although that is done almost universally in the United States, still, here, it is divided into many branches, and a separate owner and manager for each branch. Manchester is so much surrounded by mountains, that it is said it rains 300 days in each year.

There are several very ancient buildings in Manchester, particularly the old Collegiate Church, which was built in the fifteenth century, and near which is the Monastery, now appropriated to the education of 80 boys, who, at 14 years of age, are apprenticed to some useful employments. There is a Library connected with it containing 15 to 20,000 volumes, and also many ancient relics, shown visitors by the boys in rotation, for which you are expected to give a few pence. The old Church is ornamented with many rude carvings and statues, that, to an American, who had never seen the like, was not particularly adapted to fix his attention to the service; but far otherwise,—as to look above you, and see seraphs playing on violins, will not add to the solemnity of a church.

Agriculture, in the vicinity of Manchester, is on a small scale. Gardening is, however, well attended to; in gooseberries and sallads, particularly celery, they exceed any section of England.

The ride across the mountains to Sheffield is any thing but interesting. You see the wild heath in great perfection, but there are too many of them. Sheffield, so famous for cutlery and plated ware of superior quality, is pleasantly situated. The show-rooms of Messrs. Rodgers & Son are splendid indeed; but any little article can be purchased at less price in America of equal value at retail.

Situated 12 miles from Sheffield is *Chatsworth*, one of the seats of the Duke of Devonshire. As he is the perfect plain gentleman, I will, however, give you some free remarks, describing, as well as I am able, this princely mansion. Near the inn at Edenson stands a Porter's Lodge, which commands one of the entrances into Chatsworth Park. From this entrance into the park the road ascends to a high point of ground, from whence the palace, (if it may so be called,) and its surrounding scenery are at first beheld. Descending from this elevated situation, you cross the river Derwent, upon a stone bridge, built from a design, as was said, of Michael Angelo. The House, as you approach, appears to great advantage. The noble amphitheatre of wood by which this richly ornamented mansion is accompanied has a grand and magnificent effect. The lofty foliage near the house is well connected with the remote hills by a succession of delightful scenery, which is terminated in the distance by the barren mountains of the Peak. The style of laying out gardens and pleasure-grounds having altered so much since the last century, that what would then have been highly praised, would now be universally condemned. I allude to the trim parterres and formal water-works which here abound.

Back of the garden is a long and narrow flight of stone steps, down which the water rushes by moving some machinery on the side of the mountain, without any break, winding, or interruption of any kind. There is also a temple surmounted with stone lions, &c. which, by a slight movement of machinery, spout water in fine style; as also a tree representing a willow, which, by the by, is made entirely of copper, and at a given signal emits water from every branch. These water-works are what has added much to the celebrity of Chatsworth; but although in good taste when constructed, are little thought of now. The irregular winding stream here and there showing itself in its passage down the mountain, now and then screened from view entirely by shrubbery, would be much more accordant to the present views of landscape gardening. The house is said to have been built in the reign of William III. It is composed of four nearly equal sides, with an open quadrangular court within, the principal front being highly ornamented. Two sides of the court have open balconies, guarded by stone balustrades, divided into different sections, ornamented by busts in stone of some of the most distinguished personages in the reign of Queen Anne. The middle of the court is occupied with a marble statue of *Arion*, seated on the back of a dolphin, and surrounded with the clear living waters of a fountain, which fall into a capacious basin, also formed of marble. The classical fable from which this is taken represents Arion, as a musician and poet of Lesbos; having acquired great fame in his own country, he travelled into Italy, and became rich by the exercise of his professional excellence. Returning homewards, full of the hope of enjoying in his own country the wealth he had amassed in another, the mariners that accompanied him were tempted to throw him into the sea, that they might possess themselves of his riches; in this extremity he requested permission once more to play upon his harp before he died. The request was granted; he struck the cords, and amidst a stream of music that astonished the mariners, he leaped into the sea, when a dolphin, charmed with the strains of his harp, caught him on his back, and, in return for the sweet music it had made, bore him safely through the waves to his home, where he arrived long before the vessel in which he had embarked, when he told the story of his danger and escape. The mariners on their examination acknowledged their murderous intentions, and as far as they were concerned in the transaction they confirmed the tale of the miraculous escape of Arion on the back of the dolphin.

On entering the grand hall, a spacious and noble room connected with a flight of steps to the grand staircase, it is useless to attempt a description of the fine paintings and statuary that every where meet your view; but I must not pass over the chapel, which, being finished mostly of cedar wood, the delightful fragrance whereof perfumes the building. This is a richly ornamented place; carving, painting and sculpture, have all been lavishly employed in decorating it. One painting, representing the incredulity of St. Thomas, is very fine and appropriate. Many rooms in the palace are hung with ancient tapestry. The library is a splendid room, and bespeaks the taste of the present Duke, who has made extensive additions to it. Chatsworth was, for some time, the residence, or rather prison, of Mary, Queen of Scots, in remembrance of which a suit, of apartments are still known by her name; and near the bridge by the side of the Derwent are the remains of an old building, called the Bower of Mary, Queen of Scots. A deep moat encompasses the area, where the tower stands, and a garden once occupied its summit, wherein that unfortunate princess, shorn of every semblance of royalty, was wont to spend the solitary hours of confinement.

The deer and various groups of cattle in the park, the fine mountain scenery, and, in fact, every thing one's eye rests on, is calculated to please, and enable the visitor to say, with Cunningham, in his Stanzas upon Chatsworth:

> But Chief, amidst thy proudly pendant groves,
> Majestic Chatsworth, and thy fair domains,
> The muse with loitering steps delighted roves,
> Or thoughtful meditates her cheerful strains.

I must close this letter, which, I fear, you will not think interesting, as it is not an agricultural district here, being too mountainous for extensive cultivation.

Yours, &c. B. P.

New-York State Agricultural School—Hamilton College. By A PRACTICAL FARMER. [For the New-York Farmer.]

MR. EDITOR,—In your June number, page 163, is an article on the important subject of a State Agricultural School. I like your ideas much, with the exception of those in the close of the article. You there say that, "in case the experimental farm is connected with the college, it will be requisite to substitute some studies more intimately connected with agriculture for those much less so, for the agricultural students. The society should have a vote in the government of the college, and the appointment of the superintendant of the farm, and of the gardener." In respect to the studies, the reverse should be the arrangement; they should be selected and adapted to the wants of those who are intended for agricultural life, and some of these studies should be dispensed with, and others attended to in their place, to accommodate those who intend to pursue other callings. Let the institution be agricultural in all its characteristic traits. Let all the students be required to labor, and become acquainted with the practical details of farming and gardening operations. The government, too, should be principally under that of trustees appointed by the society, and the legislature, or regents of the university.

It is well known that this once flourishing and very promising college labors under many embarrassments. By a notice in the Utica Sentinel of the 9th July, I perceive a second and last appeal to the inhabitants of that place, calling upon them to take immediate measures

for its relief. Should the appeal fail, "the doors of the college," says the writer, "will be closed." I do not know the result of that meeting; but I am very sanguine that the present friends of the college would find their views more fully promoted, by converting it into an agricultural institution, than persevering in this present struggling and agonizing course. Let the contemplated change go into full operation, and students would flock to the institution from all parts of the United States. Let it be conducted with prudence, judgment, and ability,—it would be continually increasing in the affection of the people at large. The prejudices of the farming community would rapidly wear away, and they soon would become its most devoted and permanent supporters. In this section of the state the union of labor and study, of theory and practice, meets with increasing admirers among farmers.

A Practical Farmer.

Vernon, N. Y. July 15, 1833.

Maple Tree Orchards—Premiums for Essays on Butter and Cider. By Lansingburgh. [For the New-York Farmer.]

The Maple Sugar Tree is an object of great interest. This beautiful and useful growth of the forest will, I fear, soon disappear, if some kind hand be not stretched forth to rescue it from the unsparing axe of the woodsman.

Every farmer who plants an apple orchard, should also plant his maple trees. The value of this tree is too little understood. The new settler in the woods has little interest in its preservation, and no skill in its management—a tree, which would live productively for more than twenty years, dies in two or three years, under the wounds he inflicts, seldom producing to him more than four or five pounds of sugar in a season. Under proper management, it would produce three or four times that quantity. The time and labor expended on producing sugar from the maple is so inconsiderable, it is scarcely worthy of calculation.

"A gentleman brought to our office yesterday morning, some young plants of the sugar maple, taken from the shore of the river, below the village of Bath, and nearly opposite the Columbia street bridge. The plants are evidently the production of seed deposited there by the high water in May last; and we are told that they have sprouted up in such numbers, and with such luxuriant and rapid growth, as to present an interesting view for the botanist. We have frequently heard the scarcity of the sugar maple in this vicinity mentioned with regret; and it is suggested that horticulturists would render an essential service to the public, by availing themselves of this opportunity to supply their nurseries with plants of this useful and beautiful tree, which is every way desirable, from the symmetry of its form and abundance of its foliage, for shade and ornament; and from the saccharine qualities of its sap, and the value of its wood, as a source of profit. We should be pleased to see the public attention directed to its cultivation. The plants may be seen at our Counting-Room."—[Albany Argus.]

May I be permitted to suggest, to some of our State Agricultural Societies, a distribution of premiums for the best essays on the making of Butter and Cider: they are both, and particularly the first, of almost indispensable necessity.

It is frequently difficult to procure butter, of good or even of tolerable quality, and then but at an advanced price. The labor of making that which is good, is little if any greater than that which must be expended on the worst.

Lansingburgh.

[A distinguished agriculturist of the eastern States has sent us a manuscript copy of the following work, a few copies only of which were printed in England. The author's ideas are visionary, but yet every intelligent farmer may, in perusing it, find something for reflection. We give the essay without the drawings.]

A New System of Agriculture. By George Adams. [Communicated for the New-York Farmer and Gardener's Magazine.]

Every experienced farmer will allow, that a great deal of keep is wasted by any kind of stock, and particularly by cattle and sheep, in a wet season, especially in those countries where the land is naturally wet. I am convinced that by the present mode of keeping stock three parts of the keep is lost. Every beast and sheep has six ways of destroying its keep; and it is well known that to be kept in a feeding state, they should have a sufficient quantity of food to satisfy their wants in a short time, because they fatten quicker by lying much at rest. In some parts of the kingdom, particularly near London, many persons adopt the economical plan of mowing their grass and taking it to house. This method is a great saving to the keep, for, as I have just observed, there are six ways by which beasts and sheep destroy their keep, viz. by eating, walking, dunging, staling, lying down, and breathing upon it. To prevent these and other inconveniences, I would recommend all feeding stock to be kept in moveable houses, upon grass seeds, clover, cinquefoil, la lucerne, or any other luxuriant keep. These should be mown and regularly given in sufficient quantities to the stock, by which means, not only four times the quantity of keep will be produced on the same land, but an opportunity will be afforded of properly disposing of the manure made by the stock in feeding. This is a very important consideration. I have no doubt that upon the usual plan of feeding stock, three parts of the r manure are wasted, if not entirely lost; for in, or near, most grazing lands, there are brooks, rivers, or fords of water. Now, in the summer time, the cattle after they have eaten enough will get into the water, and stand there the greater part of the day, consequently the urine and dung which they void during the day will be entirely lost. And as it is well known that nothing is more offensive to a beast than its own excrements, it is evident that the keep is destroyed upon those parts of the pasture where the stock may chance to leave their dung or urine. Again, in those lands where there is no water, the flocks and herds will be seen under the shade of spreading trees, or hedges, to avoid being tormented by the flies, and thus their manure will be deposited where it is least wanted, and unnecessarily wasted. There is still another way by which the keep is often much injured; and that is by the cows running about when they are bulling, and treading so much as to occasion considerable waste. And, besides the breaking of hedges by the bulling, which frequently happens where there is a feeding stock of cows, accidents often befal the cows in a thriving state, causing them prematurely to slip their calves to the great loss of the proprietor. Now, upon my new plan, all these inconveniences are avoided, and to a certainty much more stock will be fed than in the usual method.

I have given a plan and dimensions for housing, both for beasts and sheep, which will be found the best method of saving the manure, and enabling the farmer to spread it upon the land which most needs it. How often is it seen in the spring that a good piece of grass is so wet that the stock cannot be turned into it without considerable loss, and at the same time starving for want of proper keep. Now, a single trial is sufficient to prove that the produce of one acre of land, given in the manner I have described, will keep three times more stock than if the stock were turned into the pasture. It must be clear then that the better the crop the greater is the waste in the usual way of feeding cattle, and that it is in vain getting a good crop if a farmer do not make the best use of it.

The method I here point out will be of general utility, being suitable to every country and every climate. The grand object is to shelter the stock from the inclemency of the seasons. Let any man notice how any kind of stock will endeavor to get shelter during a storm, and to find a shade from the sultry heat; and he will at once be convinced that it is congenial to their nature to screen themselves from the extremes both of heat and cold—that swampy and wet lands, or keen, gravelly or ryeland soils, are equally injurious to them.

There are, doubtless, many farmers who neither understand the most suitable method of cultivating lands, nor how to make the best use of the crops they produce. It is, therefore, my present intention to point out how considerably more produce from the earth may be raised by my new system of agriculture than by any former method of tillage.

It will only be necessary to state the proper method of cultivating a single acre of land, as the principle will, of course, apply to any number of acres which a farmer may choose to till upon my plan.

By pursuing the following directions a single acre of land will produce a crop sufficient to feed in one year 24 beasts or 240 sheep.

Directions.—In September, or sooner, let your land be well manured and properly ploughed, so as to raise a good deal of fine mould; then plant one third of an acre of the land with the large sort of early cabbage plants, viz. the late York or sugar-loaf; one third more in February or March, with the same sort of cabbage plants; and the remaining third of the acre in February or March, with the ox or drum-headed cabbage plant.

If the land be good, I would recommend that the plants should be set in rows three feet wide and two feet between each plant; that is, three plants in each square yard. Upon this plan an acre of ground will require 14,520 plants, reckoning five score to the hundred; but if the land be poor, it will be advisable to set the plants thicker proportionably, according to the grower's judgment of the quality of the land.

By the beginning of June, the first crop of cabbages will be in perfection. Then put either six beasts or sixty sheep in the manner here directed, according to the plan of the moveable houses herein annexed either for cattle or sheep. Let the cabbages and leaves be carefully cut off, leaving the cabbage stalks cut across at the top, to grow again. The cabbage upon good land may be calculated to average 15 lbs. a piece, which will be upon the acre 217,800 lbs. or 108 tons 18 cwt. at 5 score to the hundred.

Allow to each beast or ten sheep 13¼ cabbages, and 1¼ lb. over, or 200 lbs. every day and night, which will be 1200 lbs. a day and night for six beasts or sixty sheep: in eighty-four days, or twelve weeks, these will be fat.

Then put up six other beasts, or sixty more sheep, which will fatten in the same time and manner, viz. at the end of the half year, eighty cabbages will have been consumed daily, amounting to 14,520 cabbages, just the number planted upon the acre, which, taken at 15 lbs. a piece, amounts to 108 tons 18 cwt. at 5 score to the cwt. so that the feed of 12 beasts, or 120 sheep, stands as under:

Days.	Weeks.	Cabbages.	lbs.	Ton.	ct.	lb.
For 84 or	12	6,718 at	15 a piece	50	8	0
84	12	6,718	15	50	8	0
13¼	2	1,084	15	8	2	0
181¼	26	14,520	45	108	18	0

As soon as you begin to clear off a few rows of cabbages, after the first of June, spread the dung and urine carefully over the ground, leaving all the cabbage stalks, which will soon sprout again; then with a small kaff or hoe, kibble the ground regularly over, so as to cover the manure, and sow turnip seed among your

cabbage stalks as you clear off the cabbages, and continue to do so till you have gone all over the ground the first time.

About the first of November you will have another crop of keep as good as the first; and then as you clear off all the cabbage sprouts and turnips, you must again properly apply your manure all over the land as before, which is now either to be ploughed or dug and planted as at first. Thus you will have a regular succession of good keep; and if the winter's produce be what may be expected from good management, the same acre of land will feed in one year 24 beasts or 240 sheep. This, like all other crops, will of course vary with the season; but if the weight here mentioned be produced, the number of cattle above stated will hardly get through it. In case of a failure in the winter, a little hay or corn may be given to supply the deficiency.

I shall conclude my remarks with giving an estimate of the respective expenses attendant on the cultivation of the land, and the erection of suitable buildings. I shall also give a calculation known to few, of the weekly increase of a beast or sheep, from a certain quantity of nutricious food. As I have reason to believe that this is the first calculation of the kind ever offered to the public, I trust it will not be unworthy of general attention.

I would recommend the houses built for the cattle to be ten feet long and five feet high, with a large trough or manger to hold both meal and water, which are to be given occasionally at two folding doors, made for that purpose, to open in front. The bottom to be not very closely laid, in which some holes are to be bored for the urine to run through from under the beast. A fall from the fore to the hind part of about three inches may be made by putting in the sloats at the fore part near the bottom at the hind part. The houses are to run upon four cast iron wheels with iron axle-trees. The wheels should be eighteen inches high, and two inches wide in the strake; and each house is to stand on a cast iron railway of about half an inch thick, two and a half inches wide, turning up half an inch each side. By having two spare cast iron railways, each about six feet long, the houses may easily be removed from place to place by alternately laying down one railway and taking up another. The sheep-houses, when the land is wet, and it is necessary to keep them on land or ridges, should be made five feet by five in the clear, three feet high in front, and two and a half feet high at the back part.

They are to be covered with feather-edged boards, by which means there will be a sufficient fall on the roof to shoot off the wet. Any common timber will do for the sills, sloats, uprights, and wall-plates, but the top and bottom should be good; the latter being convenient for carrying off the urine, that the sheep may lie dry.

All the sides and cratch may be made with small round sticks. The cratch is to be made in the door at front; and from the frame-work of the doors some boards to outspeech as they go upwards. A light falling door is to be made at the top for putting in the meat. This machine, which will hold four sheep, is also to run upon iron wheels and iron railways. But for lands that are drier and commonly worked level, I would recommend the sheep-houses to be made fifteen feet long by five high; the roof to fall with folding doors, and to have a cratch, &c. as the other sort. A machine of this sort will hold twelve sheep, and may easily be removed from one place to another.

I have made another house, quite close at the bottom, so as to fall six inches at the hind part, with a trough behind to catch all the dung and urine, which are to be mixed, and put upon the land in a liquid state: this is best calculated for ewe sheep. Every person, upon trial, will find the good effects of manure thus properly applied. I am convinced that in many instances land is improved by bearing crops, and will be enriched by this method, always producing fresh and regular keep for the stock.

As ten small sheep will eat as much meat as one beast of a small size, so ten large sheep will consume as much as one large beast, and will gain proportionably nearly the same in weight, with equal quantities of food. There is a regular proportion between a given number of beasts and sheep, let the price of the market be as it may, as will be seen by the following statement:

One cow, at 5 score per quarter, the whole weighing 20 score or 400 lbs. is equal to ten sheep, which, at 10 lbs. per quarter, will weigh 20 score, or 400 lbs.:

One cow, 7 score 10 lbs. per quarter, will be 600 lbs. is equal to ten sheep, at 15 lbs. per quarter, or 800 lbs.:

One beast, 10 score per quarter, will be 800 lbs., is equal to ten sheep, 20 lbs. per quarter, or 800 lbs.:

So if one fresh cow, 5 score per quarter, cost £10, ten sheep, at 10 lbs. per quarter, will cost £10; or if one cow, 7 score 10 lbs. per quarter, cost £15, or one beast, 10 score per quarter, cost £20, ten sheep, at 15 lbs. per quarter, will cost £15, and ten sheep at 20 lbs. per quarter, will cost £20.

The proportion of sheep to the number of beasts is as ten to one; that is, for every single beast ten sheep, or for ten beasts one hundred sheep, and so on.

According to my calculation one acre of land properly managed will feed 24 beasts, or 240 sheep in one year. Now supposing we allow for each beast, or 10 sheep, 200 lbs. of good, nutricious, wholesome food, in one day and night, and that each beast, or ten sheep, gain only four pounds weight in that time; this will be an increase of 28 lbs. a week, or 16 score 16 lbs. in 84 days, or 12 weeks, the time I allow for feeding; allowing then an average profit of 6 pence per lb. each beast, or ten sheep, will produce a clear profit of £8 8s. Total profit of 24 beasts, or 240 sheep, will be £201 12s.

The expense of cultivating an acre of land will be as follows:

Rent of one acre of land -	£2	5	0
Tithe do. do. - -	0	15	0
Ploughing and Ribbling - -	2	0	0
Taxes - - - - -	0	10	0
Plants, Turnip-seed, and Planting	10	10	0
Labor, and looking after the stock	10	10	0
Allowance for the houses, which may cost £10, but will last 5 years; the yearly average therefor - - - - - -	2	0	0
Interest for use of buildings -	0	10	0
For hay in case of bad weather in the winter - - - -	6	0	0
	37	0	0

From the profits of one acre of land -	201	12	0
Deduct total expenses, as above - -	37	0	0
Leaves a possible gain of £164	12	0	

As I have made a moderate calculation of profit, and a very handsome allowance for rent and other expenses, every unprejudiced reader must be convinced of the advantages of this new system of agriculture. Not that I mean to say that every acre of land will produce the same weight of keep, for it is readily admitted that there is a great difference in the fertility of soils; but I will affirm that much depends upon management; and that the system now proposed will be found upon trial vastly superior to any other ever acted upon. Even this plan is doubtless capable of improvement, and it will give me great satisfaction hereafter to see it improved by any gentleman who may pay due attention to it. It will be a great consolation to me if by this information I have been in any measure able to serve my country; but I naturally hope, nevertheless, to receive some remuneration for the great anxiety, trouble, and expense, to which I have been subjected by actual experiments to reduce my theory to practice.

I am persuaded that my plan will not only produce greater crops than any other system, but also with greater certainty, render different kinds of land more fertile than any other method of cultivation.

For this discovery his majesty has been graciously pleased to grant me his letters patent, which patent was attended with very considerable expense. I will give every encouragement to all well disposed persons who wish to raise plenty to supply the wants of their fellow creatures, by means of the portable houses for which I have obtained the patent.

If stalls be fixed in any part of an acre of land, the expense of carrying the keep, and properly disposing of the manure made by the stock, will, at a moderate calculation, amount to £15 per acre, per annum, besides the injury done to the lands thereby in a wet season. I will, therefore, permit any person to work any number of portable houses upon the following terms, viz. for every such house not holding more than one beast at a time, 10s. per annum; for every portable sheep house, not holding more than five sheep at a time, 5s.: and for every such house not holding more than ten sheep at a time, 10s. per annum; and so on in proportion for any greater number of sheep each cot may contain. And I hereby give notice that all such portable houses shall have fixed upon them a plate, with the following inscription, "Adams' Patent Portable Beast Houses and Sheep Cots," which shall be signed only by the patentee. An agent will be immediately appointed in every country town, to grant the proper certificates, signed only by the patentee, to any person enquiring and paying for the same, and likewise to sell the proper plates to be affixed to each house, specifying the number of beasts or sheep allowed by the patentee's certificate. Any person who shall attempt to feed stock in portable houses without my plate affixed, and without first taking out my certificate, will have an action commenced against him, as I am authorized by his majesty's warrant to have the exclusive right of this improved method of feeding sheep, which is my own invention.

(Signed) Geo. Adams.

Proceedings of the New-York Horticultural Society.

The following articles were presented to the Inspecting Committee at Combault's Hotel, Broadway:

July 2d, 1833.

Mr. William Neale presented a handsome Boquet, containing Rosa odorata and sanguinea; a Seedling Clove, and variegated Carnations; Campanula urticifolia alba pleno; Phlox maculata; Spirea spicata; Delphinium grandiflorum and sinensis; Monarda didyma; Lythrum salicaria; Coreopsis tenuifolia, and viola grandiflora.

Alexander Knox, Esq.—12 Gooseberries, weighing 5¼ oz. 3 dwts.; and a handsome Boquet, consisting of Gillia capitata, Veronica spicata, some fine double Hollyhocks, Douglass, Augusta Dahlia, fine specimens of Carnations, and other flowers.

Mr. William Reid—The following Dahlias, Fulgida nana; Queen of Wirtemburg, and Crimson Globe, also Spigelia marylandica; Saracena adunca, and Asclepias sps.

Samuel Whittemore, Esq.—Erythrina herbacea; Delphinium sinensis; Carnations and other flowers.

Mr. J. F. L. Duflon—16 Gooseberries, very fine, 12 of which weighed 4½ ounces.

July 9th, 1833.

N. G. Carnes, Esq., presented Calceolaria bicolor, and a White Oleander.

Alexander Knox, Esq.—The following Dahlias, Douglass' Augusta; Star of Brunswick; Fulgida nana, Queen of Wirtemburg, and Lindleyana.

Mr. William Reid—The following Dahlias, Lord Lyndhurst; Well's Theodore; Douglass' Augusta; Scarlet Turban, and Queen of Wirtemburg.

Mr. Thomas Hogg—The following Dahlias,

Crimson Globe; Blood red Globe; Squibb's Yellow; Wheeler's Marchioness of Bath; Theodore; Man of Kent; Turner's shaded seedling; Mars, and several fine Seedlings.

Mrs. William Wilson—A beautiful Boquet, consisting in part of Actea spicata; Asclepias tuberosus; Hemerocallis cœrulea; Roses; Honeysuckles, and Veronica spicata, also a quart of beautiful red and white Antwerp Raspberries.

Dr. Ireland--Petunia nyc tangiflora.

Charles Oakley, Esq.--6 Moor Park Apricots; 6 Harvest Apples, and Rosa Microphylla, all very fine specimens.

July 16 & 23, 1833.

Charles Oakley, Esq.—Six Moor Park Apricots, from the open air, and a Boquet containing Lobelia Cardinalis, Spirea Ulmaria pleno, Echinops Ritro, Monarda Didyma and Mollis, Ferraria Tigrida, Gardenia Florida, Sweet Scabious, Indian Pinks, Double Balsamines and Monthly Roses.

Madame Parmentier—One pint German Morello Cherries.

N. G. Carnes, Esq.—Eschscholtzia Californica, Canna Indica, Fuchsia Conica and Gracilis, Geranium Russellianum and Macranthon, Calceolaria Rugosa and Bicolor.

Alex. Knox, Esq.—A Boquet containing Monarda Didyma and Mollis, Double Hollyhocks, Lysimachia Iverticillata, Hydrangea Hortensis, very large and fine, Phlox Acuminata, Zennia Elegans, Theodore & Squibb's pure Yellow Dahlias, large Double Poppies, Double Balsamines, Dracocephalum Moldavicum, Double Marygolds and other flowers.

Mr. Wm. Cunningham, Gardener to T. A. Emmet, Esq.—Three Egg Plant Fruits, very fine.

Mr. Thomas Hogg—A Boquet containing Chelone Barbata, Phlox Accuminata and Paniculata Alba, Hemerocallis Fulva pl., Sylpha sps. Heliopsis Laevis, Penstemon Rosea, Echinops Ritro, Potentilla Formosa, Spirea Salicifolia, Asclepias Tuberosus and Salicifolia, Allium Cernuum, Campanula Uricanica and other flowers.

Mr. Wm. Reid—Several Dahlias, among which were Barrett's Susannah and Dennisii.

Wm. R. Cooke, Esq.—Six Moor Park Apricots, very fine.

Mr. Thomas Hogg—Twelve varieties of very beautiful Double Hollyhocks, three do. Balsamines.

Mr. Thomas Kinnersley—The following Dahlias; Matchless Superb, Hall's Mogul, Sulphur Superb, Queen of Wirtemburg, Flammartes, Sol, and Crimson Globe.

July 30, 1833.

Mr. Michael Floy—Presented Bignonia Grandiflora, and the following Dahlias, viz.: Miller's Fair Imogene, Miller's Anna Boleyn, Kentish Hero, New-York Dwarf Yellow, Queen of Wirtemburg, Magnet, Miller's William 4th, Wells' Queen Adelaide, Colvill's Perfecta, and Miller's Defiance.

Mr. J. L. Duffon—Twelve very fine Apricots.

Wm. R. Cooke, Esq.—Eight very fine Apricots, and a handsome Boquet, containing Lobelia Cardinalis, Zennia Elegans, Lythrum Salicaria, Campanula Uranica, Double Perennial Sunflower, Crimson Globe Dahlias, and other flowers.

Mr. Cunningham, Gardener to T. A. Emmet, Esq.—Two very fine Water-melons, one weighing 28 lbs. the other 25½ lbs.

Mr. Wm. Neale—A Boquet containing Lobelia Cardinalis, Double Perennial Sunflower, Variegated Catnip, three sps. Phlox, Verbena Pinnatifida, Delphinium Grandiflorum plenum, Cluster Roses, Viola Grandiflora, Rudbeckia Purpurea, Crimson Globe and Hall's Mogul Dahlias.

E. H. Warner, Esq.—Miller's Wm. the 4th. and a Seedling Dahlia.

Alex. Knox, Esq.—Romulus, Theodore, and Magnet Dahlias, Lobelia Cardinalis, Gillia Capitata, Clarkia Pulchella, Purple Candytuft, Rudbeckia Purpurea, Double Marygolds and other flowers; also two sorts of early apples, viz. Magdalen and Tom Montgomery.

Mr. Wm. Reid—Several fine Dahlias, among which were Barrett's Susannah, Dennisii and Magnet.

I. Brown, Esq.—The following Dahlias, viz. Blush Lilac, Pulla, Theodore, Pulcherrima, Colvill's Perfecta, Barrett's Susannah and Magnet.

NEW PUBLICATIONS.

Address delivered before the Horticultural Society of Maryland, at its first Annual Exhibition, June 12, 1833. By J. P. Kennedy.

Before speaking of the address we will dwell for a moment on the title of this society. It assumes that of the whole State, instead of Baltimore, where it is located. The name would imply that it is intended to embrace the whole State of Maryland, by auxiliaries we should suppose; and if so, we cannot but approve of the plan. If union of effort is powerful, the more extensive it is the greater will be its effects. Let, then, a society be formed in the capital of every State, with the name of the State, and with the intention of promoting the formation of an auxiliary one in every considerable village, town and city.

In the first part of his address Mr. Kennedy gives us vivid impressions of associated exertions in advancing mankind in the arts and in happiness. The usefulness of the society will not be insured by the advantages of its location, detailed in the following extract. Zealous and enterprizing members, who will take enlightened measures, are often of more importance than a good soil and central situation.

"The citizens of Baltimore and its neighborhood have, for many years past, been distinguished for the productions of their gardens; at least in that most useful department concerned with the cultivation of vegetables and fruits for the table. The climate of this region is eminently favorable to this culture. Our central position, or middle latitude, enables us, with no great expense or trouble, to rear the plants native to either extremities of this country. We have a soil which, though light, is warm and kindly, and readily submits to the labor of the husbandman. We have sheltered valleys, where the fierce north wind is denied approach, and we have low lands bordering on our river, where the winter is sooner compelled to dissolve his icy fetters, and release the struggling germ from his grasp, than is common to the more elevated table lands westward. Our vegetation, therefore, is earlier, and more easily protected, immediately in this vicinity, than almost on any other spot lying along the same parallel of latitude. These causes have operated to give us good gardens. They have been greatly assisted; in fact, we may say, these advantages were first shown to us by the French emigrants from St. Domingo, who, some thirty years gone by, were exiled by the domestic troubles of that island, and who, fortunately, selected this city as their asylum. That useful and worthy class of refugees brought with them an invaluable gift to our people, the knowledge of plants and garden stuffs. They were a frugal and industrious race of men, whose calm and philosophic resignation to misfortune taught us a moral lesson scarcely less valuable than the physical boon with which it was accompanied. Many of them had been affluent, had lived in the abundance of their tropical climate, and, in accordance with the simple and healthful habits of their nation, had accurately studied all the processes of horticulture, and drawn their chief luxuries from that pursuit. They had been despoiled of their wealth; their homes were subverted; and, with the few household relics which haste allowed them to snatch up, they fled before the pursuing war, and reached our shores in safety. On their arrival here, they soon became aware of the value of this position for gardens; and many persons, now within my hearing, will doubtless remember the rapid improvement which took place in the supply of our markets. Almost immediately from the date of this event, Baltimore became distinguished for the profusion and excellence of the fruits and vegetables which supplied her tables."

NEW-YORK FARMER.

AUGUST 1, 1833.

Fair of the American Institute.—By a circular, dated July 4th, 1833, we perceive that the Sixth Annual Fair of the American Institute is to be held in this city on the 15th of October next. To the whole community this fair is of interest, affording to the manufacturer an opportunity to convince his countrymen of the increasing excellence of the products of one of the great sources of wealth to our prosperous country. To the mechanic, a place to deposit, for admiring crowds, the specimens of mechanical skill and ingenuity in the useful and ornamental arts of life. To the merchant, an evidence that American products are enlarging the sources of our commercial greatness. To the farmer, an opportunity to see what mechanical ingenuity is doing in improving agricultural implements, in inventing machinery, enabling him to increase the products of his farm, with less labor; and what positive evidence there is of the flourishing condition of American arts and manufactures, and of their varied and increasing calls on the numerous productions of the soil; and to the ladies, one of the most pleasing and profitable exhibitions of the articles of cultivated taste, to the improvement of which they have greatly contributed, and they are now again invited to make a display of those things that prove that the hand and the mind of the fair sex are not only adding to the refinements and comforts of domestic life, but augmenting the resources of national prosperity.

Crops.—The Southern Planter, printed at Macon, Ga. of July 6, says, "Crops of corn and cotton, in this section, are generally promising. Oats have turned out pretty well. Roasting ears, water melons, &c. begin to be plenty. Crops of wheat short."

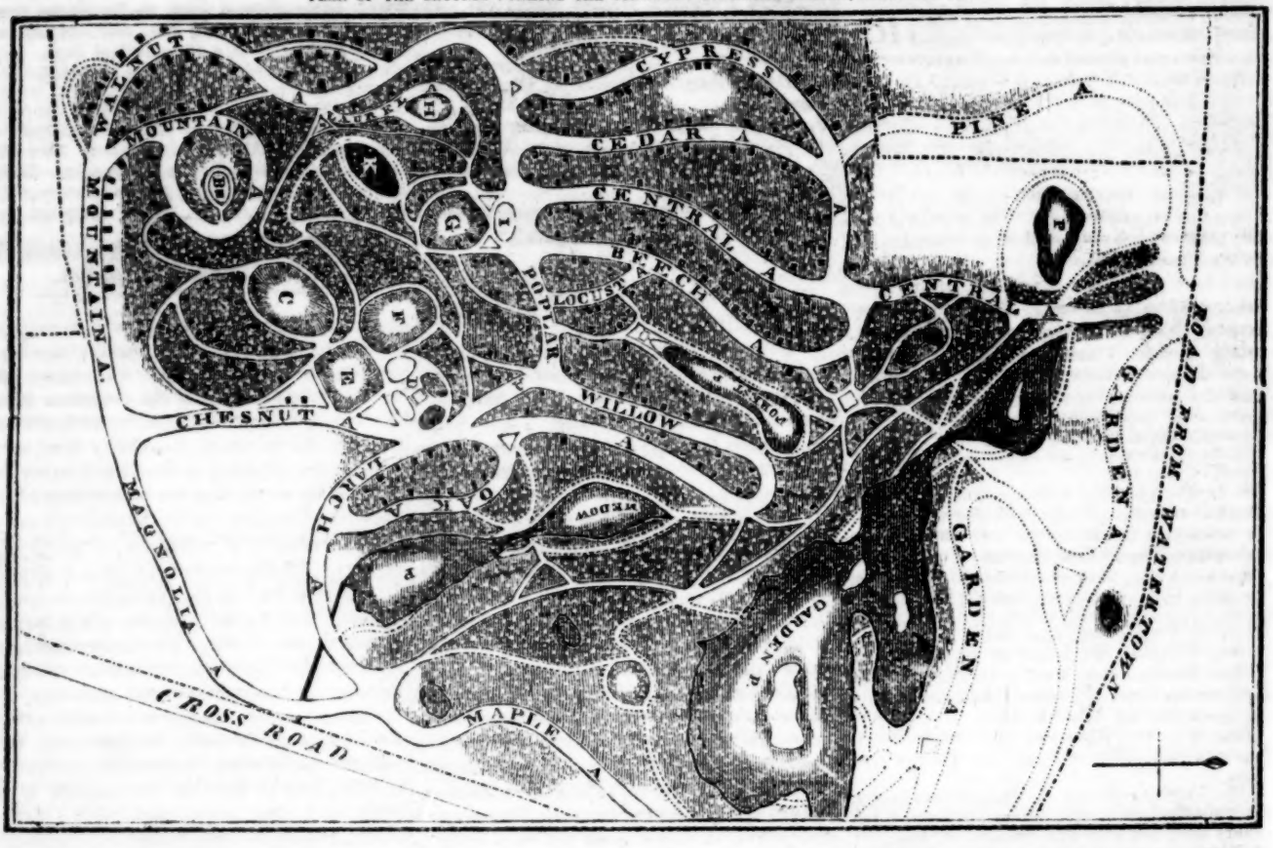
Throughout the Western States, the crops indicated more than ordinary abundance.

In Canada, where the early season was very discouraging, appearances begin to gladden the heart of the farmer.

In this section of our country, grass and grain crops have been larger than ordinary. Corn is coming on rapidly, and will, undoubtedly, yet do well. Although we have had showers during the harvesting season, yet we have had much fine weather. In Saratoga county the weevil has been very destructive to wheat.

Troublesome Weed, (*Lithospermum Arvense.*)—This weed, sometimes called steencrout, stone-weed and wheat-thief, is very troublesome in some sections of our State. A writer in the Genesee Farmer considers summer crops unfavorable to its progress, and that two crops of buckwheat in succession will subdue it.

PLAN OF THE GROUNDS FORMING THE CEMETERY AT MOUNT AUBURN, NEAR BOSTON.



RURAL CEMETERY.—In our last we alluded to the establishment of a rural cemetery in the immediate vicinity of Boston, and promised a more minute description of it in a subsequent number; we proceed, therefore, to redeem that promise, by giving the following account of the origin of the plan, together with the eloquent address of JUDGE STORY at its consecration, and a plan of the grounds as laid out for cultivation.

Who that reads the following truly appropriate address will not join with us in urging our prominent citizens to step forward and give the weight of their influence to a similar measure? Why not the *New-York*, as well as the BOSTON HORTICULTURAL SOCIETY, adopt a similar measure, and thereby prevent its falling into the hands of speculators?

In the plan, the dotted lines show the CONTEMPLATED paths and avenues, also the contraction of the ponds; and the square dots along the paths and avenues show the lots of 200 square feet purchased by individuals. The other references are as follow: A, Avenues; B, Mount Auburn; C, Harvard Hill; D, Temple Hill; E, Juniper Hill; F, Cedar Hill; G, Pine Hill; H, Laurel Hill; I, Central Square; K, Consecrated Dell; P, Ponds.

"Six or seven years ago meetings were held and measures taken, to carry into effect the plan of a private Rural Cemetery. But although there appeared to be no want of interest in the design, and of numbers sufficient to effect its execution, yet the scheme was suspended, from the difficulty of obtaining, at that time, a lot of land in all respects eligible for the purpose.

"After the establishment of the Massachusetts Horticultural Society, in 1829, it occurred to some of its members that a cemetery, of the character which had been desired, might with great propriety be instituted under the auspices of this new society, and that by a union of the interests of each institution, the success and permanency of their objects might be reciprocally promoted. Upon a notification, signed by Dr. J. Bigelow and John C. Gray, Esq. a meeting of gentlemen was held at the Exchange Coffee House, November 27, 1830, for the general consideration of the subject. At this meeting it was announced that a tract of ground, of about seventy acres, at the place then called Sweet Auburn, and owned by G. W. Brimmer, Esq. would be placed at the disposal of the society. A committee was appointed at a cotemporaneous meeting of the Horticultural Society, to consider the expediency of making this purchase, and to devise measures for forwarding the design of a Rural Cemetery and Experimental Garden. This committee afterwards obtained leave to fill their own vacancies, and to enlarge their number by the addition of persons not members of the Horticultural Society. A report in behalf of this committee was afterwards made by General H. A. S. Dearborn, President of the Society, and published in the newspapers, in which an extensive and able exposition was made of the advantages of the undertaking.

"At a meeting of persons favorably disposed towards the design, held at the Horticultural Rooms, June 8th, 1831, a strong and general wish was manifested for the immediate prosecution of the undertaking. A committee of twenty was chosen to consider and report upon a general plan of proceedings. The following gentlemen constituted this committee: Messrs. Joseph Story, Daniel Webster, Henry A. S. Dearborn, Samuel Appleton, Charles Lowell, Jacob Bigelow, Edward Everett, George Bond, George W. Brimmer, Abbot Lawrence, Jacob T. Austin, Franklin Dexter, Alexander H. Everett, Charles P. Curtis, Joseph P. Bradlee, John Pierpont, Zebedee Cook, jr. Charles Tappan, Lucius M. Sargeant, and George W. Pratt. This committee subsequently offered the following report, which was accepted, and made the basis of subscription for those who might become proprietors.

"The Committee of the Horticultural Society, to whom was referred the method of raising subscriptions for the Experimental Garden and Cemetery, beg leave to report:

"1. That it is expedient to purchase, for a Garden and Cemetery, a tract of land commonly known by the name of Sweet Auburn, near the road leading from Cambridge to Watertown, containing about seventy-two acres, for the sum of six thousand dollars; provided this sum can be raised in the manner proposed in the second article of this report.

"2. That a subscription be opened for lots of ground in the said tract, containing not less than two hundred square feet each, at the price of sixty dollars for each lot,—the subscription not to be binding until one hundred lots are subscribed for.

"3. That when a hundred or more lots are taken, the right of choice shall be disposed of at an auction, of which seasonable notice shall be given to the subscribers.

"4. That those subscribers who do not offer a premium for the right of choosing, shall have their lots assigned to them by lot.

"5. That the fee of the land shall be vested in the Massachusetts Horticultural Society; but that the use of the lots, agreeably to an act of the Legislature respecting the same,

shall be secured to the subscribers, their heirs, and assigns, forever.

"6. That the land devoted to the purpose of a Cemetery shall contain not less than forty acres.

"7. That every subscriber, upon paying for his lot, shall become a member for life, of the Massachusetts Horticultural Society, without being subject to assessments.

"8. That a Garden and Cemetery Committee, of nine persons, shall be chosen annually, first by the subscribers, and afterwards by the Horticultural Society, whose duty it shall be to cause the necessary surveys and allotments to be made, to assign a suitable tract of land for the Garden of the Society, and to direct all matters appertaining to the regulation of the Garden and Cemetery; and five at least of this committee shall be persons having rights in the Cemetery.

"The tract of land which has received the name of Mount Auburn, is situated on the southerly side of the main road leading from Cambridge to Watertown, and is partly within the limits of each of those towns. Its distance from Boston is about four miles. The place was formerly known by the name of Stone's Woods, the title to most of the land having remained in the family of Stone from an early period after the settlement of the country. Within a few years, the hill and part of the woodland were offered for sale, and were purchased by George W. Brimmer, Esq. whose object was to prevent the destruction of the trees, and to preserve so beautiful a spot for some public or appropriate use. The purchase which has now been made by the Horticultural Society includes between seventy and eighty acres, extending from the road nearly to the banks of Charles river. A portion of the lane situated next to the road, and now under cultivation, is intended to constitute the Experimental Garden of the Horticultural Society. A long water-course extending between this tract and the interior woodland forms a natural boundary, separating the two sections. The inner portion, which is set apart for the purposes of a Cemetery, is covered throughout most of its extent with a vigorous growth of forest trees, many of them of large size, and comprising an unusual variety of kinds. This tract is beautifully undulating in its surface, containing a number of bold eminences, steep acclivities, and deep shadowy vallies. A remarkable natural ridge with a level surface runs through the ground from south-east to north-west, and has for many years been known as a secluded and favorite walk. The principal eminence, called Mount Auburn in the plan, is one hundred and twenty-five feet above the level of Charles river, and commands from its summit one of the finest prospects which can be obtained in the environs of Boston. On one side is the city in full view, connected at its extremities with Charleston and Roxbury. The serpentine course of Charles river, with the cultivated hills and fields rising beyond it, and having the Blue Hills of Milton in the distance, occupies another portion of the landscape. The village of Cambridge, with the venerable edifices of Harvard University are situated about a mile to the eastward. On the north, at a very small distance, Fresh Pond appears, a handsome sheet of water finely diversified by its woody and irregular shores. Country seats and cottages, seen in various directions, and especially those on the elevated land at Watertown, add much to the picturesque effect of the scene. It is proposed to erect, on the summit of Mount Auburn, a tower, after some classic model, of sufficient height to rise above the tops of the surrounding trees. This will serve the double purpose of a landmark to identify the spot from a distance, and of an observatory, commanding an uninterrupted view of the country around it. From the foot of this monument will be seen in detail the features of the landscape, as they are successively presented through the different vistas which have been opened among the trees; while, from its summit, a magnificent and unbroken panorama, embracing one of the most delightful tracts in New-England, will be spread out beneath the eye. Not only the contiguous country, but the harbor and bay of Boston, with their ships and islands, and, in a clear atmosphere, the distant mountains of Wachusett, and probably even of Monadnock, will be comprehended within the range of vision.

"The grounds of the cemetery have been laid out with intersecting avenues, so as to render every part of the wood accessible. These avenues are curved and variously winding in their course, so as to be adapted to the natural inequalities of the surface. By this arrangement the greatest economy of the land is produced, combining at the same time the picturesque effect of landscape gardening. Over the more level portions the avenues are made twenty feet wide, and are suitable for carriage roads. The more broken and precipitous parts are approached by foot-paths, which are six feet in width. These passage-ways are to be smoothly gravelled, and planted on both sides with flowers and ornamental shrubs. Lots of ground, containing each three hundred square feet, are set off as family burial places, at suitable distances, on the sides of the avenues and paths. The perpetual right of inclosing and of using these lots, as places of sepulture, is conveyed to the purchasers of them by the Horticultural Society. It is confidently expected that many of the proprietors will, without delay, proceed to erect upon their lots such monuments and appropriate structures as will give to the place a part of the solemnity and beauty which it is destined ultimately to acquire.

"It has been voted to procure, or construct, a receiving tomb in Boston, and another at Mount Auburn, at which, if desired, funerals may terminate, and in which the remains of the deceased may be deposited until such time as the friends shall choose to direct their removal to the Cemetery; this period, however, not to exceed six months.

"The principal entrance to Mount Auburn will be through a lofty Egyptian gateway, which it is proposed to erect on the main road, at the commencement of the Central Avenue. Another entrance or gateway is provided on the cross road, at the eastern foot of the hill. Whenever the funds of the corporation shall justify the expense, it is proposed that a small Grecian or Gothic Temple shall be erected on a conspicuous eastern eminence, which in reference to this allotment has received the prospective name of Temple Hill.

"The recent purchase and disposition of the grounds at Mount Auburn has effected the consummation of the two designs, which, for a considerable time, have been cherished by numerous members of the community in the city of Boston and its vicinity. One of these is the institution of a garden for the promotion of Scientific Horticulture; the other, the establishment in the environs of the city of a retired and ornamented place of sepulture."

Address of Judge Story.

"My Friends,—The occasion which brings us together has much in it calculated to awaken our sensibilities, and cast a solemnity over our thoughts.

"We are met to consecrate these grounds exclusively to the service and repose of the dead.

"The duty is not new; for it has been performed for countless millions. The scenery is not new; for the hill and the valley, the still, silent dell, and the deep forest, have often been devoted to the same pious purpose. But that which must always give it a peculiar interest is, that it can rarely occur except at distant intervals; and, whenever it does, it must address itself to feelings intelligible to all nations, and common to all hearts.

"The patriarchal language of four thousand years ago is precisely that to which we would now give utterance. We are 'strangers and sojourners' here. We have need of 'a possession of a burying-place, that we may bury our dead out of our sight.' Let us have 'the field, and the cave which is therein; and all the trees that are in the field, and that are in the borders round about;' and let them 'be made sure for a possession of a burying-place.'

"It is the duty of the living thus to provide for the dead. It is not a mere office of pious regard for others; but it comes home to our own bosoms, as those who are soon to enter upon the common inheritance.

"If there are any feelings of our nature, not bounded by earth, and yet stopping short of the skies, which are more strong and more universal than all others, they will be found in our solicitude as to the time and place and manner of our death; in the desire to die in the arms of our friends; to have the last sad offices to our remains performed by their affection; to repose in the land of our nativity; to be gathered to the sepulchres of our fathers. It is almost impossible for us to feel, nay, even to feign, indifference on such a subject.

"Poetry has told us this truth in lines of transcendant beauty and force, which find a response in every breast:

> 'For who, to dumb Forgetfulness a prey,
> This pleasing, anxious being e'er resigned,
> Left the warm precincts of the cheerful day,
> Nor cast one longing, ling'ring look behind?
>
> 'On some fond breast the parting soul relies;
> Some pious drops the closing eye requires;
> E'en from the tomb the voice of Nature cries;
> E'en in our ashes live their wonted fires.'

"It is in vain that philosophy has informed us, that the whole earth is but a point in the eyes of its Creator,—nay, of his own creation; that, wherever we are,—abroad or at home,—on the restless ocean, or the solid land,—we are still under the protection of his Providence and safety, as it were, in the hollow of his hand. It is in vain that religion has instructed us, that we are but dust, and to dust we shall return,—that whether our remains are scattered to the corners of the earth, or gathered in sacred urns, there is a sure and certain hope of a resurrection of the body and a life everlasting. These truths, sublime and glorious as they are, leave untouched the feelings of which I have spoken, or rather they im-

part to them a more enduring reality. Dust as we are, the frail tenements which enclose our spirits but for a season, are dear, are inexpressibly dear to us. We derive solace, nay, pleasure, from the reflection, that when the hour of separation comes, these earthly remains will still retain the tender regard of those whom we leave behind; that the spot where they shall lie will be remembered with a fond and soothing reverence; that our children will visit it in the midst of their sorrows; and our kindred in remote generations feel that a local inspiration hovers round it.

"Let him speak who has been on a pilgrimage of health to a foreign land. Let him speak, who has watched at the couch of a dying friend, far from his chosen home. Let him speak, who has committed to the bosom of the deep, with a sudden, startling plunge, the narrow shroud of some relative or companion. Let such speak, and they will tell you, that there is nothing which wrings the heart of the dying,—aye, and of the surviving,— with sharper agony than the thought that they are to sleep their last sleep in the land of strangers, or in the unseen depths of the ocean.

"'Bury me not, I pray thee,' said the patriarch Jacob, 'bury me not in Egypt: but I will lie with my fathers. And thou shalt carry me out of Egypt; and bury me in their burying-place.'—'There they buried Abraham and Sarah his wife; there they buried Isaac and Rebecca his wife; and there I buried Leah.'

"Such are the natural expressions of human feeling, as they fall from the lips of the dying. Such are the reminiscences that for ever crowd on the confines of the passes to the grave. We seek again to have our home there with our friends, and to be blessed by a communion with them. It is a matter of instinct, not of reasoning. It is a spiritual impulse, which supercedes belief, and disdains question.

"But it is not chiefly in regard to the feelings belonging to our own mortality, however sacred and natural, that we should contemplate the establishment of repositories of this sort. There are higher moral purposes, and more affecting considerations, which belong to the subject. We should accustom ourselves to view them rather as means than as ends; rather as influences to govern human conduct, and to moderate human suffering, than as cares incident to a selfish foresight.

"It is to the living mourner—to the parent, weeping over his dear dead child—to the husband, dwelling in his own solitary desolation—to the widow, whose heart is broken by untimely sorrow—to the friend, who misses at every turn the presence of some kindred spirit,—it is to these, that the repositories of the dead bring home thoughts full of admonition, of instruction, and, slowly, but surely, of consolation also. They admonish us, by their very silence, of our own frail and transitory being. They instruct us in the true value of life, and in its noble purposes, its duties and its destination. They spread around us, in the reminiscences of the past, sources of pleasing though melancholy reflection.

"We dwell with pious fondness on the characters and virtues of the departed; and, as time interposes its growing distances between us and them, we gather up with more solicitude the broken fragments of memory, and weave, as it were, into our very hearts, the threads of their history. As we sit down by their graves, we seem to hear the tones of their affection whispering in our ears. We listen to the voice of their wisdom, speaking in the depths of our souls. We shed our tears; but they are no longer the burning tears of agony. They relieve our drooping spirits, and come no longer over us with a deathly faintness. We return to the world, and we feel ourselves purer, and better, and wiser, from this communion with the dead.

"I have spoken of but feelings and associations common to all ages, and all generations of men—to the rude and the polished—to the barbarian and the civilized—to the bond and the free—to the inhabitant of the dreary forests of the north, and the sultry regions of the south—to the worshipper of the sun, and the worshipper of idols—to the Heathen, dwelling in the darkness of his cold mythology, and to the Christian rejoicing in the light of the true God. Every where we trace them in the characteristic remains of the most distant ages and nations, and as far back as human history carries its traditionary outlines. They are found in the barrows, and cairns, and mounds of olden times, reared by the uninstructed affection of savage tribes; and, every where, the spots seem to have been selected with the same tender regard to the living and the dead; that the magnificence of nature might administer comfort to human sorrow, and incite human sympathy.

"The aboriginal Germans buried their dead in groves consecrated by their priests. The Egyptians gratified their pride and soothed their grief, by interring them in their Elysian fields, or embalming them in their vast catacombs, or inclosing them in their stupendous pyramids, the wonder of all succeeding ages. The Hebrews watched with religious care over their places of burial. They selected for this purpose ornamented gardens, and deep forests, and fertile valleys, and lofty mountains; and they still designate them with a sad emphasis, as the "House of the Living." The ancient Asiatics lined the approaches to their cities with sculptured sarcophagi, and mausoleums, and other ornaments embowered in shrubbery, traces of which may be seen among their magnificent ruins. The Greeks exhausted the resources of their exquisite art in adorning the habitations of the dead. They discouraged interments within the limits of their cities; and consigned their reliques to shady groves in the neighborhood of murmuring streams and mossy fountains, close by the favorite resorts of those who were engaged in the study of philosophy and nature, and called them, with the elegant expressiveness of their own beautiful language, CEMETERIES,* or "Places of Repose." The Romans, faithful to the example of Greece, erected the monuments to the dead in the suburbs of the eternal city, (as they proudly denominated it,) on the sides of their spacious roads, in the midst of trees and ornamental walks and ever-varying flowers. The Appian way was crowded with columns, and obelisks, and cenotaphs, to the memory of her heroes and sages; and, at every turn, the short but touching inscription met the eye,—Siste, Viator—Pause, Traveller—inviting at once to sympathy and thoughtfulness. Even the humblest Roman could read on the humblest grave-stone the kind offering—"May the earth lie lightly on these remains!"* And the Moslem successors of the emperors, indifferent as they may be to the ordinary exhibitions of the fine arts, place their burying-grounds in rural retreats, and embellish them with studious taste as a religious duty. The cypress is planted at the head and foot of every grave, and waves with a mournful solemnity over it. These devoted grounds possess an inviolable sanctity. The ravages of war never reach them; and victory and defeat equally respect the limits of their domain. So that it has been remarked with equal truth and beauty, that while the cities of the living are subject to all the desolations and vicissitudes incident to human affairs, the cities of the dead enjoy an undisturbed repose, without even the shadow of change.

"But I will not dwell upon facts of this nature. They demonstrate, however, the truth of which I have spoken. They do more; they furnish reflections suitable for our own thoughts on the present occasion.

"If this tender regard for the dead be so absolutely universal, and so deeply founded in human affection, why is it not made to exert a more profound influence on our lives? Why do we not enlist it with more persuasive energy in the cause of human improvement? Why do we not enlarge it as a source of religious consolation? Why do we not make it a more efficient instrument to elevate ambition, to stimulate genius, and to dignify learning? Why do we not connect it indissolubly with associations which charm us in nature and engross us in art? Why do we not dispel from it that unlovely gloom, from which our hearts turn as from a darkness that ensnares, and a horror that appals, our thoughts?

"To many, nay, to most of the heathen, the burying-place was the end of all things. They indulged no hope, at least, no solid hope, of any future intercourse or re-union with their friends. The farewell at the grave was a long and an everlasting farewell. At the moment when they breathed it, it brought to their hearts a startling sense of their own wretchedness. Yet, when the first tumults of anguish were passed, they visited the spot and strewed flowers, and garlands, and crowns, around it, to assuage their grief, and nourish their piety. They delighted to make it the abode of the varying beauties of nature; to give it attractions which should invite the busy and the thoughtful; and yet, at the same time, afford ample scope for the secret indulgence of sorrow.

"Why should not Christians imitate such examples? They have far nobler motives to cultivate moral sentiments and sensibilities; to make cheerful the path-ways to the grave; to combine with deep meditations on human mortality, the sublime consolations of religion. We know, indeed, as they did of old, that 'man goeth to his long home, and the mourners go about the streets.' But that home is not an everlasting home; and the mourners may not weep as those who are without hope. What is the grave to Us, but a thin barrier dividing Time from Eternity, and Earth from Heaven? What is it but 'the appointed place of rendezvous, where all the travellers on life's journey meet' for a single night of repose—

* κοιμητηρια—literally, places of sleep.

* "Sit tibi terra levis."

'Tis but a night—a long and moonless night,
We make the grave our bed, and then are gone.'

"Know we not

——'The time draws on
When not a single spot of burial earth,
Whether on land, or in the spacious sea,
But must give up its long committed dust
Inviolate?'—

"Why then should we darken with systematic caution all the avenues to these repositories? Why should we deposite the remains of our friends in loathsome vaults, or beneath the gloomy crypts and cells of our churches, where the human foot is never heard, save when the sickly taper lights some new guest to his appointed apartment, and 'lets fall a supernumerary horror' on the passing procession? Why should we measure out a narrow portion of earth for our grave-yards in the midst of our cities, and heap the dead upon each other with a cold, calculating parsimony, disturbing their ashes, and wounding the sensibilities of the living? Why should we expose our burying grounds to the broad glare of day, to the unfeeling gaze of the idler, to the noisy press of business, to the discordant shouts of merriment, or to the baleful visitations of the dissolute? Why should we bar up their approaches against real mourners, whose delicacy would shrink from observation, but whose tenderness would be soothed by secret visits to the grave, and holding converse there with their departed joys? Why all this unnatural restraint upon our sympathies and sorrows, which confines the visit to the grave to the only time in which it must be utterly useless—when the heart is bleeding with fresh anguish, and is too weak to feel, and too desolate to desire consolation?

"It is painful to reflect, that the Cemeteries in our cities, crowded on all sides by the overhanging habitations of the living, are walled in only to preserve them from violation. And that in our country towns they are left in a sad, neglected state, exposed to every sort of intrusion, with scarcely a tree to shelter their barrenness, or a shrub to spread a grateful shade over the new-made hillock.

"These things were not always so among Christians. They are not worthy of us. They are not worthy of Christianity in our day. There is much in these things that casts a just reproach upon us in the past. There is much that demands for the future a more spiritual discharge of our duties.

"Our Cemeteries rightly selected, and properly arranged, may be made subservient to some of the highest purposes of religion and human duty. They may preach lessons to which none may refuse to listen, and which all that live must hear. Truths may be there felt and taught in the silence of our own meditations, more persuasive and more enduring than ever flowed from human lips. The grave hath a voice of eloquence, nay, of superhuman eloquence, which speaks at once to the thoughtlessness of the rash, and the devotion of the good; which addresses all times, and all ages, and all sexes; which tells of wisdom to the wise, and of comfort to the afflicted; which warns us of our follies and our dangers; which whispers to us in accents of peace, and alarms us in tones of terror; which steals with a healing balm into the stricken heart, and lifts up and supports the broken spirit; which awakens a new enthusiasm for virtue, and disciplines us for its severer trials and duties; which calls up the images of the illustrious dead, with an animating presence for our example and glory; and which demands of us as men, as patriots, as Christians, as immortals, that the powers given by God should be devoted to his service, and the minds created by his love should return to him with larger capacities for virtuous enjoyment, and with more spiritual and intellectual brightness.

"It should not be for the poor purpose of gratifying our vanity or pride, that we should erect columns, and obelisks, and monuments, to the dead; but that we may read thereon much of our own destiny and duty. We know that man is the creature of associations and excitements. Experience may instruct, but habit, and appetite, and passion, and imagination, will exercise a strong dominion over him. These are the Fates, which weave the thread of his character, and unravel the mysteries of his conduct. The truth, which strikes home, must not only have the approbation of his reason, but it must be embodied in a visible, tangible, practical form. It must be felt as well as seen. It must warm as well as convince.

"It was a saying of Themistocles, that the trophies of Miltiades would not suffer him to sleep. The feeling, thus expressed, has a deep foundation in the human mind; and, as it is well or ill directed, it will cover us with shame or exalt us to glory. The deeds of the great attract but a cold and listless admiration, when they pass in historical order before us like moving shadows. It is the trophy and the monument which invests them with a substance of local reality. Who, that has stood by the tomb of Washington on the quiet Potomac, has not felt his heart more pure, his wishes more aspiring, his gratitude more warm, and his love of country touched by a holier flame? Who, that should see erected in shades like these, even a cenotaph to the memory of a man, like Buckminster, that prodigy of early genius, would not feel that there is an excellence over which death hath no power, but which lives on through all time, still freshening with the lapse of ages.

"But passing from those, who by their talents and virtues have shed lustre on the annals of mankind, to cases of mere private bereavement, who that should deposit in shades like these the remains of a beloved friend, would not feel a secret pleasure in the thought, that the simple inscription to his worth would receive the passing tribute of a sigh from thousands of kindred hearts? That the stranger and the traveller would linger on the spot with a feeling of reverence? That they, the very mourners themselves, when they should revisit it, would find there the verdant sod, and the fragrant flower, and the breezy shade? That they might there, unseen, except of God, offer up their prayers, or indulge the luxury of grief? That they might there realize, in its full force, the affecting beatitude of the scriptures; 'Blessed are they that mourn, for they shall be comforted?'

"Surely, surely, we have not done all our duty, if there yet remains a single incentive to human virtue, without its due play in the action of life, or a single stream of happiness, which has not been made to flow in upon the waters of affliction.

"Considerations like those which have been suggested have for a long time turned the thoughts of many distinguished citizens to the importance of some more appropriate places of sepulture. There is a growing sense in the community of the inconveniences, and painful associations, not to speak of the unhealthiness of interments beneath our churches. The tide which is flowing with such a steady and widening current into the narrow peninsula of our metropolis, not only forbids the enlargement of the common limits, but admonishes us of the increasing dangers to the ashes of the dead from its disturbing movements. Already in other cities the church-yards are closing against the admission of new incumbents, and begin to exhibit the sad spectacle of promiscuous ruins and intermingled graves.

"We are, therefore, but anticipating at the present moment the desires, nay, the necessities, of the next generation. We are but exercising a decent anxiety to secure an inviolable home for ourselves and our posterity. We are but inviting our children and their descendants to what the Moravian Brothers have, with such exquisite propriety, designated as 'the Field of Peace.'

"A rural Cemetery seems to combine in itself all the advantages which can be proposed to gratify human feelings, or tranquilize human fears; to secure the best religious influences, and to cherish all those associations which cast a cheerful light over the darkness of the grave.

"And what spot can be more appropriate than this, for such a purpose? Nature seems to point it out with significant energy, as the favorite retirement for the dead. There are around us all the varied features of her beauty and grandeur—the forest-crowned height; the abrupt acclivity; the sheltered valley; the deep glen; the grassy glade; and the silent grove. Here are the lofty oak, the beech, that 'wreaths its old fantastic roots so high,' the rustling pine, and the drooping willow;—the tree, that sheds its pale leaves with every autumn, a fit emblem of our own transitory bloom; and the evergreen, with its perennial shoots, instructing us, that 'the wintry blast of death kills not the buds of virtue.' Here is the thick shrubbery to protect and conceal the new made grave; and there is the wild-flower creeping along the narrow path, and planting its seeds in the upturned earth. All around us there breathes a solemn calm, as if we were in the bosom of a wilderness, broken only by the breeze as it murmurs through the tops of the forest, or by the notes of the warbler pouring forth his matin or his evening song.

"Ascend but a few steps and what a change of scenery to surprize and delight us. We seem, as it were, in an instant, to pass from the confines of death to the bright and balmy regions of life. Below us flows the winding Charles with its rippling current, like the stream of time hastening to the ocean of eternity. In the distance, the city,—at once the object of our admiration and our love,—rears its proud eminences, its glittering spires, its lofty towers, its graceful mansions, its curling smoke, its crowded haunts of business and pleasure, which speak to the eye, and yet leave a noiseless loneliness on the ear. Again we turn, and the walls of our venerable University rise before us, with many a recollection of happy days passed there in the interchange of study and friendship, and many a grateful thought of the affluence of its learning, which has adorned and nourished the literature of our country. Again we turn, and the cultivated farm, the neat cottage, the village church, the sparkling lake, the rich

valley, and the distant hills, are before us through opening vistas; and we breathe amidst the fresh and varied labors of man.

"There is, therefore, within our reach, every variety of natural and artificial scenery, which is fitted to awaken emotions of the highest and most affecting character. We stand, as it were, upon the borders of two worlds; and as the mood of our minds may be, we may gather lessons of profound wisdom by contrasting the one with the other, or indulge in the dreams of hope and ambition, or solace our hearts by melancholy meditations. Who is there that, in the contemplation of such a scene, is not ready to exclaim with the enthusiasm of the poet,

'Mine be the breezy hill, that skirts the down,
Where a green grassy turf is all I crave,
With here and there a violet bestrown,
Fast by a brook, or fountain's murmuring wave,
And many an evening sun shine sweetly on my grave.'

"And we are met here to consecrate this spot, by these solemn ceremonies, to such a purpose. The Legislature of this Commonwealth, with a paternal foresight, has clothed the Horticultural Society with authority (if I may use its own language) to make a perpetual dedication of it, as a Rural Cemetery or Burying-Ground, and to plant and embellish it with shrubbery, and flowers, and trees, and walks, and other rural ornaments. And I stand here, by the order and in behalf of this Society, to declare that, by these services, it is to be deemed henceforth and for ever so dedicated. Mount Auburn, in the noblest sense, belongs no longer to the living, but to the dead. It is a sacred, it is an eternal trust. It is consecrated ground. May it remain for ever inviolate!

"What a multitude of thoughts crowd upon the mind in the contemplation of such a scene. How much of the future, even in its far distant reaches, rises before us with all its persuasive realities. Take but one little narrow space of time, and how affecting are its associates! Within the flight of one half century, how many of the great, the good, and the wise, will be gathered here! How many in the loveliness of infancy, the beauty of youth, the vigor of manhood, and the maturity of age, will lie down here, and dwell in the bosom of their mother earth! The rich and the poor, the gay and the wretched, the favorites of thousands, and the forsaken of the world, the stranger in his solitary grave, and the patriarch surrounded by the kindred of a long lineage! How many will here bury their brightest hopes, or blasted expectations! How many bitter tears will here be shed! How many agonizing sighs will here be heaved! How many trembling feet will cross the pathways, and, returning, leave behind them the dearest objects of their reverence or their love!

"And if this were all, sad indeed, and funereal, would be our thoughts; gloomy indeed would be these shades, and desolate these prospects.

"But—thanks be to God!—the evils which he permits have their attendant mercies, and are blessings in disguise. The bruised reed will not be laid utterly prostrate. The wounded heart will not always bleed. The voice of consolation will spring up in the midst of the silence of these regions of death. The mourner will revisit these shades with a secret, though melancholy pleasure. The hand of friendship will delight to cherish the flowers and the shrubs that fringe the lowly grave, or the sepultured monument. The earliest beams of the morning will play upon these summits with a refreshing cheerfulness; and the lingering tints of evening hover on them with a tranquilizing glow. Spring will invite thither the footsteps of the young by its opening foliage; and autumn detain the contemplative by its latest bloom. The votary of learning and science will here learn to elevate his genius by the holiest studies. The devout will here offer up the silent tribute of pity, or the prayer of gratitude. The rivalries of the world will here drop from the heart; the spirit of forgiveness will gather new impulses; the selfishness of avarice will be checked; the restlessness of ambition will be rebuked; vanity will let fall its plumes; and pride, as it sees "what shadows we are, and what shadows we pursue," will acknowledge the value of virtue as far, immeasurably far, beyond that of fame.

"But that which will be ever present, pervading these shades like the noon-day sun, and shedding cheerfulness around, is the consciousness, the irrepressible consciousness, amidst all these lessons of human mortality, of the higher truth, that we are beings, not of time, but of eternity—"That this corruptible must put on incorruption, and this mortal must put on immortality." That this is but the threshold and starting point of an existence, compared with whose duration the ocean is but as a drop, nay, the whole creation an evanescent quantity.

"Let us banish, then, the thought, that this is to be the abode of a gloom, which will haunt the imagination by its terrors, or chill the heart by its solitude. Let us cultivate feelings and sentiments more worthy of ourselves, and more worthy of Christianity. Here let us erect the memorials of our love, and our gratitude, and our glory. Here let the brave repose who have died in the cause of their country. Here let the statesman rest, who has achieved the victories of peace, not less renowned than war. Here let genius find a home, that has sung immortal strains, or has instructed with still diviner eloquence. Here let learning and science, the votaries of inventive art, and the teacher of the philosophy of nature, come. Here let youth and beauty, blighted by premature decay, drop, like tender blossoms, into the virgin earth; and here let age retire, ripened for the harvest. Above all, here let the benefactors of mankind, the good, the merciful, the meek, the pure in heart, be congregated; for to them belongs an undying praise. And let us take comfort, nay, let us rejoice, that in future ages, long after we are gathered to the generations of other days, thousands of kindling hearts will here repeat the sublime declaration, 'Blessed are the dead that die in the Lord, for they rest from their labors; and their works do follow them.'"

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the months of May and June, 1833—(Latitude 31.10 N., Longitude 91.59 W. nearly.)

Date. 1833.	Thermometer. Morn'g.	Noon.	Night.	Wind.	Weather, Remarks, &c.
May 1	66	79	70	SE—strong	cloudy—light showers
" 2	68	74	73	calm	.. —heavy showers—night calm and clear
" 3	66	72	66	..	.. —light thunder showers—evening wind N and light
" 4	65	80	72	..	clear morning—evening heavy thunder showers—wind S and strong
" 5	63	80	71	..	.. .. SE, light
" 6	66	82	72	..	.. .. —night thunder and light showers
" 7	68	77	71	..	cloudy—evening light showers—wind SE
" 8	69	79	70	NE—light	.. —heavy rain at night, and calm
" 9	66	78	70	..	.. —rain, and in evening light showers
" 10	68	82	72	calm	.. morning—evening heavy thunder showers
" 11	66	84	71	..	clear—evening light showers and heavy thunder
" 12	67	78	72	..	.. — .. heavy showers from N—thunder severe and at night
" 13	68	73	73	..	cloudy— .. .. .. —rain severe—Red River falling
" 14	67	80	77	..	clear all day
" 15	66	85	78	..	.. ..
" 16	71	81	76	..	.. ..
" 17	69	83	78	..	.. —evening wind S
" 18	72	82	72	S—light	cloudy evening—thunder shower from NW, severe
" 19	70	84	80	calm	clear
" 20	70	83	79	SW	.. —at night a gale from W—thunder and rain severe
" 21	68	82	72	W, morning	cloudy—calm evening
" 22	71	75	70	SE	.. —rain and thunder heavy all day and night
" 23	68	80	73	W, morning	clear—calm evening
" 24	69	81	73	calm	.. —light flying clouds all day
" 25	68	76	80	..	..
" 26	70	77	80	..	..
" 27	72	87	80	..	..
" 28	75	86	80	SW—light	..
" 29	72	79	73	N, morning	cloudy—rain and thunder severe in evening
" 30	72	84	79	calm	.. morning—clear day } Red River has fallen this month 4½ inches,
" 31	72	82	80	S	.. .. —evening clear } and is now 8 inches below high water mark
June 1	75	84	81	S—high	clear—light flying clouds all day
" 2	76	87	81	S—light	.. — .. .. ..
" 3	71	85	78	..	.. —yellow figs ripe, and very large
" 4	71	86	80	..	.. —rain in the evening
" 5	70	86	80	..	..
" 6	71	87	79	..	..
" 7	73	88	78	..	.. —evening light showers and calm
" 8	72	81	78	calm	cloudy all day
" 9	73	85	79	W	clear all day
" 10	73	86	80	N—light	cloudy morning—clear evening
" 11	71	86	78	calm	clear all day—finished mowing first crops of clover and saved the hay
" 12	73	88	78	..	clear morning—evening wind W and cloudy
" 13	73	87	82	W—light	.. — .. calm
" 14	72	84	82	calm	.. —cloudy and thunder at night
" 15	76	80	80	..	cloudy—severe rain and thunder from 8 a. m. to 1 p. m.—cloudy all night
" 16	75	87	82	S—high	clear—flying clouds—evening calm
" 17	75	88	82	..	.. ..
" 18	76	88	81	..	.. .. —River rising
" 19	77	89	83	S—light	.. —evening light showers—calm
" 20	74	84	79	calm	cloudy morning—rain and thunder—evening clear
" 21	73	87	79	..	clear
" 22	76	89	79	..	.. morning—evening rain, wind SW—river risen 1 inch, and at a stand
" 23	76	86	80	SW—high	.. in the evening—wind W, light—night wind NW, high—tomatoes ripe
" 24	70	79	69	N—high	.. all day—night calm—finished gathering our crops of Irish potatoes
" 25	64	80	75	calm	.. .. —Red River falling
" 26	66	85	78	SW	.. .. —United States Snag Boats, Capt. Shreeve, from the raft went [down, in all 4 steamboats
" 27	69	85	79	SW—light	.. ..
" 28	71	34	60	calm	cloudy all day } Red River has fallen this month two inches,
" 29	73	88	61	S	clear—light flying clouds } and is now 10 inches below extreme high
" 30	74	90	62	calm	.. .. } water of 1838.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 1st to the 29th day of July, 1833, inclusive.

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
July 1	6 a. m.	70	29.90	SW	moderate	WNW	fair
	10	78	29.91	..	..	..	..
	2 p. m.	85	29.98	SSW—S	..		clear
	6	81	29.98	S—SSW	light	NNW	fair—haze strip at WNW
	10	78	30.00	SSW	moderate		clear
" 2	6 a. m.	72	29.96	SW	..	WSW / SW	cloudy, (low foggy scuds)—fair
	10	80	29.96	..	..	..	fair [bany at 5
	2 p. m.	86	29.80	S	..	..	.. —heavy rain at Al-
	6	74	29.76	S & variable	..	..	.. —cloudy at west—
	10	73	29.84	SW	light	WSW	cloudy—rain [rain at 8
" 3	6 a. m.	68	29.88	E	..	SW	.. ..
	10	68	29.88	NNE	moderate	.. / NE	rain
	2 p. m.	66	29.87	..	..	.. / N	.. —cloudy
	6	66	29.87	WNW	light	SW / NW	cloudy
	10	65	29.90	..	..	SW	fair
" 4	6 a. m.	62	29.96	WSW	..	WNW	.. with scuds fr WNW
	10	70	30.06	..	..	..	.. .. ..
	2 p. m.	76	30.05	..	..	WNW	fair, with scuds fr WNW
	6	72	30.06	..—NW	..	..	..
	10	68	30.10	NW	..	..	.. with scuds from NW
" 5	6 a. m.	63	30.20	NNW	..	NW	.. .. ..
	10	72	30.24	..	moderate	WSW / NW	.. .. ..
	2 p. m.	78	30.22	NW—WNW	..	NW	.. .. ..
	6	75	30.20	WSW	..	..	..
	10	68	30.21	..	..	..	..
" 6	6 a. m.	63	30.23	SW	..	W by S	..
	10	72	30.25	..	..	..	..
	2 p. m.	80	30.20	S	..	..	..
	6	76	30.16	..	..	..	..
	10	70	30.10	..	..		cloudy —rain
" 7	6 a. m.	70	30.01	WSW	..	..	.. —fair
	10	77	30.02	SW—SSW	..	W by S / WSW	fair
	2 p. m.	83	29.98	.. by N	..	..	.. —cloudy
	6	80	29.93	..	..	..	cloudy – fair
	10	74	29.94	..	light	W	fair
" 8	6 a. m.	70	29.90	SW	..	WSW	..
	10	73	29.90	WSW	moderate	W by S / WSW	.. [at 4 45
	2 p. m.	87	20.84	..	..	..	.. –cloudy at 3–showr
	6	82	29.80	SW	..	SW	cloudy
	10	77	29.79	..	..	..	..
" 9	6 a. m.	73	29.77	WSW–W b S	..	W by S	cl'dy-rainy–cl'dy-rainy
	10	78	29.80	W	..	SW by W / NW	rainy—cloudy
	2 p. m.	82	29.80	NW	..	.. / NNW	fair
	6	76	29.87	NNW	fresh	NNW	..
	10	66	29.98	..	moderate	..	clear
" 10	6 a. m.	63	30.05	..	..	NW	fair, with haze fr WNW
	10	72	30.10	SW	..	..	.. .. ..
	2 p. m.	78	30.07	..	..	..	.. .. ..
	6	74	30.01	..	..	WSW	.. .. ..
	10	68	30.03	..	..	..	.. .. ..
" 11	6 a. m.	63	29.98	..	..	..	..
	10	74	29.95	SSW	..	..	..
	2 p. m.	81	29.85	S	..	..	..
	6	76	29.78	..	..	..	.. cloudy at NW
	10	72	29.78	..	..	..	thunder storm
" 12	6 a. m.	68	29.77	N	..	NW	fair scuds fr NW
	10	74	29.80	W	..	WNW	..
	2 p. m.	82	29.81	W by S	..	W	..
	6	80	29.87	..	..	..	..
	10	74	29.95	..	..	..	..
" 13	6 a. m.	70	30.04	ENE	light	W by S	cloudy —fair
	10	76	30.06	E—SSE	..	W	fair
	2 p. m.	84	30.06	SSE	..	..	..
	6	79	30.03	..	..	.. / SSE	.. light sea scuds fr SSE
	10	74	30.04	..	..	SSE	.. .. ..
" 14	6 a. m.	74	30.00	S	..	SW	..
	10	83	29.95	S—SE	..	..	..
	2 p. m.	89	29.86	SE—NW	strong	.. / S	.. thun. at 3–heavy thun. sho'r at 4
	6	76	29.85	S—SE	faint	WSW	cloudy–shower at 8]—
	10	73	29.83	..	..	..	rain [fair

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
July 15	6 a. m.	76	29.85	WSW	light	SW by W	fair
	10	78	29.90	W by S	moderate	.. / NW	..
	2 p. m.	82	29.88	..	fresh	.. / W	..
	6	74	29.90	..	..	SW	..
	10	70	29.93	..	..	..	..
" 16	6 a. m.	62	29.96	WSW	..	..	..
	10	70	29.94	SW	moderate	..	..
	2 p. m.	77	29.93	..	..	..	..
	6	75	29.90	..	..	W	..
	10	71	29.90	..	..	..	..
" 17	6 a. m.	66	29.90	NNW	light		cloudy
	10	70	29.91	..	..	WNW	.. —light showers
	2 p. m.	75	29.93	NNW—W	..	W	fair
	6	72	29.98	WSW	faint	..	..
	10	69	30.02	..	..	..	..
" 18	6 a. m.	63	30.08	SSW	light	SW	..
	10	70	30.10	SW	..	W	..
	2 p. m	78	30.12	W	..	..	..
	6	73	30.13	NW	..	NNW	..
	10	68	30.20	..	..	NW	..
" 19	6 a. m.	62	30.22	NNW	moderate	W	..
	10	70	30.23	..	..	..	..
	2 p. m.	79	30.25	W	fresh	SW	.. atmosphere hazy
	6	74	30.19	SE	..	NW	cloudy—light showers
	10	71	30.18	..	..	..	.. –hvy rain in the
" 20	6 a. m.	64	30.08	..	moderate	W	fair —cloudy [night
	10	66	30.09	NE	..	NNW	cloudy
	2 p. m.	73	30.10	..	..	NW / NE	.. –fair–scuds fr NE
	6	67	30.12	..	fresh	..	..
	10	67	30.12	..	..	..	..
" 21	6 a. m.	70	30.15	NW	moderate		fair–cloudy in the west
	10	73	30.15	N	..	N	cloudy
	2 p. m.	77	30.15	SW	..	..	fair
	6	74	30.10	SE	..	NW	..
	10	70	30.10	WSW	light	WSW	clear
" 22	6 a. m.	71	30.08	..	..	..	cloudy
	10	77	30.05	..	..	..	fair
	2 p. m.	89	30.01	..	..	NNW	..
	6	86	30.00	NW	..	..	..
	10	84	30.03	..	..		..
" 23	6 a. m.	73	30.14	NE	..		clear
	10	78	30.16	NNE—NNW	..		..
	2 p. m.	82	30.15	SW—SSE	..		..
	6	76	30.12	SSE	moderate		..
	10	72	30.12	SSW	..		..
" 24	6 a. m.	69	30.05	SW	..		..
	10	80	30.00	..	..		..
	2 p. m.	91	29.94	SW—NW	..	..	..
	6	78	29.96	NNW	..	..	.. —cloudy at 4]
	10	75	29.98	..	..		thunder showers–cl'dy
" 25	6 a. m.	74	30.05	..	..	N	cloudy
	10	75	30.08	NNE	fresh	..	..
	2 p. m.	79	30.11	..	..	WNW	..
	6	72	30.11	SSW	moderate	SSW	.. —light showers
	10	71	30.15	..	fresh	..	fair
" 26	6 a. m.	63	30.20	NNE	moderate	W	..
	10	70	30.21	N	..	SW	..
	2 p. m.	79	30.19	SSW	faint	S	..
	6	73	30.15	SSE	light	..	..
	10	69	30.13	..	..	..	..
" 27	6 a. m.	66	30.12	SW	fresh	WSW	clear
	10	74	30.00	..	moderate	..	fair
	2 p. m.	84	29.95	..	..	..	..
	6	80	29.81	..	fresh	NNW	..
	10	78	29.81	..	..	..	..
" 28	6 a. m.	75	29.82	WNW	..		clear
	10	85	29.89	..	..	SSW / WNW	fair
	2 p. m.	83	29.95	..	strong	WNW	.. —wind at times vi-
	6	76	30.01	..	moderate	..	.. [olent
	10	63	30.10	..	..	..	..
" 29	6 a. m.	63	30.17	NNE	..	..	..
	10	70	30.11	WNW—SW	..	..	..
	2 p. m.	77	30.04	SW—S	..	..	..
	6	75	29.97	S—SSE	fresh	W	.. —gale fr eastward
	10	73	29.96	E	gale	SSE	.. —scuds fr SW

Goodsell's Genesee Farmer.—We have received the first number of a weekly periodical with this title, published at Rochester, N. Y. Mr. Goodsell has been extensively and creditably known as the editor of the Genesee Farmer, commenced two or three years ago at the same place. The exertions of Mr. G. to improve the condition of agriculture, entitle him to general encouragement, particularly of western New-York.

Farmer's Journal.—A monthly periodical, in quarto form, has just made its appearance at Rutland, Vt. under the editorial charge of E. Maxham. Both the editorial and selected matter bespeak its usefulness.

Pruning the Vine.—Well, neighbor, how does your Isabella promise this season? Not a single grape. Ah! how is that? We sent for Mr. M. last fall, and he pruned it so closely that the two branches looked like naked sticks, and now we shall not have a grape to gratify our palate.

Close pruning is too common in this country. In summer only the unproductive shoots should be taken out, and not these unless they produce too much shade.

Cherry and Peach Stones.—These should be preserved much more generally than they are. Were farmers in the habit of preserving them, fruit trees would be far more common. By planting a few drills in the corner of the garden, the farmer would always be supplied with these trees to set out about his house, in his orchard, and in unoccupied places of his fields. The best way is to have a box containing earth, in which the stones, or pits, should be put, and covered while they are fresh; for, they often lose their vegetating property, if allowed to become very dry. In the spring they can be planted.

Propagating the Mulberry by Cuttings.—The Northern Farmer recommends to trim the white mulberry, and set out the cuttings, during the month of August.

OBITUARY—*William Wilson.*—Died, in June, Mr. William Wilson, nurseryman and seedsman, of this city. By all those who knew Mr. W. he was greatly respected and esteemed. His loss is deeply felt by his acquaintances, and particularly by his large family. It is our intention, on a future occasion, to extend our notice of the departed.

Mr. Thomas Hibbert, a distinguished florist of Philadelphia, and one of the authors of The American Flower Garden Directory, died a short time since in that city. We should be pleased to have some one of Mr. H.'s acquaintances to give us a more full history of his horticultural life. We consider such notices of much service.

FIBROUS TROPICAL PLANTS.—*Mr. Fleet:* Sir,—The bearer, Senor Don Juan Jose Leal, a respectable native of Yucatan, has consented to deliver to you two leaves of sacque, with the fibres nearly all exposed, and the fibres of another leaf entirely separated. As an intelligent observer, you can obtain from him all the information you may desire relative to the agriculture of Yucatan. I have the honor to be, sir, very respectfully, your obedient servant,

H. PERRINE.

Consulate U. S. A. Campeache, May 22, 1833.

PLANTING VINES DEEP.—N. Herbemont, in the Southern Agriculturist, advocates the plan of planting vines deep, and suppressing yearly the surface roots. Thus managed the fruit will not be subject to rot, as the roots will not be subject to such sudden extremes of moisture and dryness.

PEACH STONES.—This is the season for preserving peach pits. They may be sown broadcast, or planted in drills, in autumn, and harrowed in, or covered to a very moderate depth.

LARGE STRAWBERRY.—The following certificate gives the measurement of the largest strawberry that we recollect to have had any account:

We certify that we have this day accurately measured a strawberry from the garden of C. M. Lee, Esq. which was seven and one-fourth inches in circumference.

EBENEZER WATTS.
H. B. WILLIAMS.

Rochester, June 19, 1833.

POTATO PUDDING.—In the hands of an economical housekeeper, no vegetable can afford a greater variety of cheap and wholesome preparation than the potato. The following is Dr. Kitchener's direction for a cottage potato pudding:

Peel, boil, and mash, a couple of pounds of potatoes; beat them up into a smooth batter, with about three quarters of a pint of milk, two ounces of moist sugar, and two or three beaten eggs.

Bake it about three quarters of an hour.

Three ounces of currants or raisins may be added.

Leave out the milk and add three ounces of butter, it will make a very nice cake.

RAISING TURNIPS.—Mr. W. Keese, of Peru, N. Y. gives the following method of preparing his ground:

"I have raised very fine turnips for two years past, simply by fencing a small piece of ground about the first of June, ploughing it, and yarding my sheep on it, at night, until about the middle of July, when the seed was sowed and harrowed in. In this way I have not failed of having very large and very fine turnips."

COOKING CAULIFLOWERS.—This we consider one of the best vegetables that graces our table. Although it is almost universally acknowledged to be a superior vegetable, yet our gardeners find but little encouragement in raising the plant. The following directions for cooking it are from the Genesee Farmer:

"Cut off the middle size when close and white, trim off the outside leaves, cut the stalks off flat at the bottom, and let it lie in salt and water a little while; then put it into boiling water with a handful of salt in it; have plenty of water and keep the vessel uncovered; skim the water well until it is well parboiled. Next it should be immersed in cold water for some time, say fifteen minutes, till it is nearly wanted for the table, then on being boiled for a few minutes it will become more firm and crisp than if cooked in the usual way, that is, without being immersed in cold water. A small cauliflower will require from fifteen to twenty minutes, and a large one from twenty to twenty-five minutes to cook; the rule is to take it up as soon as a fork will enter the stem easily, a minute or two longer boiling will spoil it, and its excellence may be destroyed by an ignorant or careless manner of preparing it for the table.

"It may be eaten with the gravy from the meat, or drawn butter, or with vinegar, as best suits. If it is designed to imitate green peas, a little loaf sugar, previously made fine, should be sprinkled over it immediately before serving. It should never be forgotten by the cook that the water must be boiling whenever the cauliflower is put into it, whether once or twice, and should be skimmed during the time it is cooking.

"O. T.

"Mediga, June 28, 1833."

RE-POTTING PLANTS.—Those plants that were not re-potted in the spring should be during this month; and those in small pots should be transferred to larger ones without disturbing the ball of earth.

BUDDING.—Those who neglected to attend to this pleasing operation in July, should not fail to make the most of August. The choicest roses may be budded on the common stocks. Young fruit trees, particularly the peach, can be propagated by budding. The most common method is cutting through the bark of the stock at right angles in the shape of a T, and carefully raising the bark sufficient to insert the bud. A piece of court or sticking plaster, some grafting-wax, or pieces of matting made oily, should be provided, to secure the bud. The sharper the knife used the better. The following directions for taking the bud are from Goodsell's Farmer:

"Holding the scion by the lower, and commence the cut about a quarter of an inch above the bud, scalping off a thin piece of the wood with the bark varying from half to three quarters of an inch in length. Taking this by the petiole or leaf stem, which should be cut to half an inch in length, slip the knife along upon the upper end, gently pressing the blade upon the surface, which, as it passes the point of the wood, will cause that to rise a little from the bark, slip the edge of the knife under it, and with the ball of the thumb press the wood between it and the knife, and raise it gently from the bark. When the wood is thus detached from the bark, examine whether that part of it which enters the bud has been torn away, if so, the bud is destroyed, and should be rejected. The wood of the bud should remain level with the bark, in order that, when set, it may rest upon and unite with the stock, otherwise the bud would die after setting, although the bark might unite perfectly."

IRRIGATION—LIQUID MANURE.—*Messrs. Tucker & Co.:* Among the seasonable hints to farmers, taken from the New-York Farmer, in your paper of May 11th, liquid manure is recommended to be applied to grass and other crops, during droughts, to keep them in a growing state until they are supplied with rain. The author of that hint, I think, could not have had much practice on the subject, or his experience differs widely from mine. I have been in the habit of using it for many years on garden plants, and am satisfied that it is the worst application that can be made to any kind of vegetables in dry hot weather. I have often tried it, and always found it an injury rather than a benefit. I would almost as soon apply hot ley to my beds of vegetables. Beets will very soon wither under its parching influence. I would as soon take unrectified whiskey, while laboring under a burning sun in August, to cool myself, as pour this liquid fire on my plants, as recommended in that article. It has an excellent effect when used just before a rain, or in moist weather, but if used at all in a dry time, it should not be suffered to touch the plants, but only poured on the ground, between rows or drills, wide enough apart to admit a spade, and the ground between the drills so watered should be immediately turned over to the depth of four or five inches. Never having tried it on a grass crop I cannot say what effect it might have; the labor, however, must be considerable in watering an acre of ground, with the conveniences that farmers usually have for such a purpose; besides, in a very dry time, the article is scarce in most farmers' barn-yards, but few having pits or cisterns to collect and preserve it for such a time of need.

A. BRYANT.

Buffalo Horticultural Garden, June, 1833.

REMARKS.—The above is from the Genesee Farmer. It is not very creditable to Mr. Bryant's progressive knowledge from his "many years" use of liquid manure, that he did not learn how to apply it without burning up his plants. When he found it beneficial "*just before a rain*," he certainly should have drawn the conclusion that he should have put a little more water with it, before he applied it in dry weather. Urine contains too large a quantity of animal matter to form the proper fluid nourishment for absorption by the roots of plants; consequently requires to be very much diluted with water. In its fresh state, before fermentation or putrifaction takes place, it holds in solution the essential elements of vegetation, and if applied in this state sufficiently diluted, it cannot fail of promoting vegetable growth. No one fact in farming is better established than that liquid manure is very beneficial to crops, particularly to grass or meadow lands. By its use Mr. Harvey, of Glasgow, cut grass six times in a season, each cutting averaging fifteen inches in length. In Flanders and other parts of Europe, it has long been used as a principal source of fertility. In the former country, urine cisterns are made in the fields to receive purchased liquid manure. If the farmers of this country valued it so highly as to preserve it all, it would not be as scarce as Mr. Bryant apprehends. As another proof that Mr. B. used it too strong, he found it beneficial, even in hot weather, when poured between the drills, thus allowing it to become diluted before it reached the roots.—[ED. N. Y. F.]

DEPTH OF RAIN WATER.—It is generally thought that rain water does not descend to any considerable depth. In the coal mines of Auvergne it penetrates 250 feet. In Misnia, in Saxony, it has percolated to the depth of 1600 feet.

SMUT IN WHEAT.—A writer, under the signature of H., in the Albany Argus, has given, in considerable detail, the results of his experiments and observations in support of attributing smut to an insect. This opinion needs more facts to support it. A writer in the Maine Farmer entertains the idea that wheat may become smutty through barn-yard manure, into which smut has been cast. His method of preventing smut is very thorough washing of the wheat in water. From very smutty seed wheat he has thus raised crops perfectly free from it. He says, "Take your smutty wheat, and a couple of tubs, a bucket, a sieve, and a quantity of slacked lime, or unleached ashes, to a brook or pool of water; then take off your coat, and roll up your sleeves, farmer-like; put about half a bushel into one tub, fill it with water, stir the wheat so that the smut may rise, and skim off the smut from the water. Repeat this operation of stirring and skimming until all the kernels of smut have risen and been skimmed off, and then pour off the water. Wash the wheat in a second and third water; rub it *hard* in your hands, so as to detach the particles of smut from the kernel, not doing at the halves by stirring it with a stick, as I have seen some do; pour off the water, drain the wheat over the sieve, empty the wheat into a spare tub, add at the rate of four quarts of slacked lime, or a peck of unleached ashes, to the bushel, and your wheat will be ready and fit to be sown. The wheat should not remain a long time in the ashes."

ABUNDANCE OF LIME.—Providence has provided in the greatest abundance those substances that are the most useful. Among these are iron, salt and lime. The last, carbonate of lime, is the most abundant earth, or rather mineral substance, existing. It belongs to every geological epoch, and to every soil, composing not only the constituent principles of primordeal rocks, but immense beds are found in its pure state. In the secondary formation, it forms more than half of the mountains and masses of earth. In the third order of formation, it is found in various combinations, in marls, in clay, and in a state of chalk. The shells of marine animals are a source of clay. In equatorial seas, reefs, rocks, and islands, are formed by madrepores and other polypi. There are some countries in which lime-stone has not been found—in Kamschatka and Cape of Good Hope. The uses of lime in the form of chalk, burnt lime, and marble, are almost innumerable. That of enriching the earth is by no means the least.

ASBESTOS, OR AMIANTHUS.—This substance is mostly found in fissures and cavities of rocks. It is in the form of silky filaments, and is formed by the decomposition of primitive rocks. In the mountains of Tarantaise, in Savoy, these filaments are often a foot in length. It abounds in Corsica, where they mix it with clays used in potteries, to render them less brittle, and more capable of resisting sudden alterations of temperature. In ancient times, towels, head dresses, and napkins, were made of it. These, when soiled by use, were thrown in the fire, and when taken out were found white and clean. The bodies of kings, before they were burnt, were enveloped in this substance, in order to obtain the ashes unmixed. Indestructible paper is made of Asbestos. Wicks made of it readily imbibe oil, and cause it to burn brilliantly.

CLIMATES OF THE EASTERN AND WESTERN CONTINENTS.—On the supposition that the American continent continues much further towards the north pole than the eastern, the former would be colder, says Malte Brun, as a greater portion would be in a frozen state.

CAVERNS.—The depth of that of Eldon Hole, in Derbyshire, England, has been sounded 9600 feet without reaching a bottom. There are some caverns from which an icy cold wind issues in summer. There are two in France, the walls of which are, in August, covered with ice that melts in December.

AMERICAN LARCH (*Larix Pendula* v. *Americana.*)—This tree abounds in Newfoundland, New Jersey, Pennsylvania, and as far south as the "most gloomy exposures in the mountainous parts of Virginia." The author of Sylva Americana thinks the climate of the northern States uncongenial, from the fact that it grows only in low and moist places, in Vermont, New Hampshire, Maine, and on uplands about Hudson's Bay. This opinion, however, can be confirmed only by experiment. It grows well as far south as New-York, as an ornamental tree, in a low, sandy, or moist garden soil. It is a magnificent tree, and in its native forest attains the height of 80 or 100 feet. The wood is valuable, but little used because of its scarcity. There are, undoubtedly, many native timber trees, that might be cultivated in our low and waste uplands with great profit. Useful timber of almost every kind commands high prices. We will give an example of planting forest trees in Great Britain. In 1770, Mr. White, a landscape gardener, purchased, in the higher parts of the county of Durham, an estate of 700 or 800 acres for £750. This he planted principally with a species of larch and Scotch fir. After ten or twelve years his plantations began to pay admirably well in pit-wood, hedge-stakes, and other uses. Many years ago, says Sir Henry Steuart, the larch wood alone yielded Mr. White £650 a year, and a few years ago £1000, derived principally from the thinnings. On a gravelly soil, on which some vegetable mould has accumulated, this larch doubles its value every three years, after it is 15 years old, and every 5 years after 25. In 1826, the larch and fir on the estate were valued at the enormous sum of £30,000, equal to $140,000. At this time, 1826, the proprietor was about to cut the whole down; and after taking a few crops of grain, he intended to replant, to procure a second fortune for his family.

GRASS AND APPLES FOR SWINE.—There is no question but that some farmers fatten their hogs at half of the expense that it costs others. Travel almost any considerable district of our country, you will find at this season of the year one half of the swine running in the streets, and fed on nothing but thin swill. As soon as the corn is gathered, these pot-bellied and meagre creatures are shut up in pens, and fed on unbroken corn until they are fat. In this way we have known farmers to feed away their whole crop of corn, and obliged to either buy more corn or kill them not sufficiently fattened. Other farmers will keep their swine in a thriving growing condition through the summer, and when the time comes to shut them up to be fed on corn, they are more than half fat. They thus save the greater portion of their corn for family use and to sell.

The celebrated agriculturist, Arthur Young, Esq., pastured, in 1776, sixty hogs of various sizes, on only two acres of clover. They kept in good condition, and grew remarkably fast. In connection with feeding on sweet apples, many farmers in this country have entered extensively into the plan of fattening their hogs on grass. If a shady, comfortable and clean pen, into which the apples are thrown, is made in the clover field, the hogs will remain in it the greater part of the time, and thus much manure may be saved. Unless the orchard contains a greater proportion of sweet apples, this plan *is* better than to turn the hogs into the orchard. It will often happen that large quantities of leaves and other suitable substances may be obtained near the pen, and which may be carted into it with comparatively little trouble.

ANIMAL INTROSUSCEPTION FOOD.—Sir Henry Steuart, in speaking of food taken in by plants through the pores, says that men have been known to become so debilitated by age or disease, that they could receive no food by the ordinary organ of the mouth. They were in consequence immersed in milk and veal-broth baths, and subsisted by absorption, through the pores of the body, like leaves. An instance occurred within a few years, in a noble duke of sporting notoriety, who was thus supported during the last months of his life.

THE PICTURESQUE.—The author of the Planter's Guide, in his cursory view of the progress of picturesque landscape, says that it is remarkable that there is not to be found in all Homer any thing like picturesque description, although Pope, in his translation, has abundantly supplied the want. Nearly a similar remark may be made on Virgil, and other Roman poets. Pliny, in his account of Greek artists, makes no mention of a landscape painter, nor is there any thing like a landscape in his list of their most celebrated productions. In the reign of Augustus, Ludius struck out into this branch of the art of painting, by producing a landscape in fresco.

HORTICULTURAL SOCIETY OF CHARLESTON.—The Editor of the Southern Agriculturist, in noticing the May exhibition of this society, gives the following concluding remarks. They make evident the good effects of united efforts.

"On the whole, we have every reason to be gratified. Our society has increased in numbers, and what is better still, the taste for horticultural pursuits is rapidly spreading throughout our city, which is shown by the eagerness with which plants are sought after by all, whether young or old, ladies or gentlemen, and by the desire which all who have even a small spot of ground evince to have it decorated with flowers and ornamental plants, while the more substantial part of the garden is frequently boasted of, and shown with pride, as possessing vegetables which would not disgrace the table of any one. This was not the case a few years ago; and from the improvements which have already taken place, we augur the happiest results. It will yet be some time before we can vie with our northern brethren in exotic plants, especially in those which are rare and costly, but we doubt not the time will come when our exhibitions will bear a comparison with their

best. And why should it not? We have both the wealth and the climate, and all that is wanting is a taste for such pursuits, which is now just springing up, but which promises to produce an abundance of fruit.

FIRE BLIGHT.—In the first number of Goodsell's Genesee Farmer, we find a statement containing the various opinions of the causes of fire blight advanced by writers in the New-England Farmer. In continuation of the subject the article proceeds:

"After all that had been written upon this subject in the N. E. Farmer, we find at page 19, Vol. 7, dated August 8, 1828, the following notice: "This disorder is extending itself in this vicinity to such a degree as to threaten the destruction of all our pear trees, unless some mode shall be discovered to arrest its progress. *We are satisfied that the true cause of the disease has not yet been discovered.* Dr. Fisher, Dr. Greene, and others of our best horticulturists, have made the most minute examination, and have been unable to discover any trace of the work of an insect."

Having referred to the opinions of others, we shall now add the result of our own observations upon the progress of this disease, and give our reason for some conclusions which we have been led to make rather from analogy than from having as yet discovered all that might be desired to support them. One reason why horticulturists have not made more satisfactory discoveries as to the cause of this disease, is that they have not commenced their examinations sufficiently early, and have been left to watch the progress of it after the first cause has ceased to operate.

I am inclined to think that careful examinations will support the following conclusions:

First, That the blight in Pear, Apple, and Quince trees is occasioned by an insect.

Secondly, That it is communicated to the pistil of the flower at the time that organ is in its greatest perfection, or during the expansion of the flower.

Thirdly, That it gradually spreads from the point of infection to other parts of the tree, in a manner similar to mortification in the animal kingdom.

Fourthly, That it is as capable of being communicated by inoculation as the Small Pox.

Fifthly, That no tree ever has it, unless by inoculation, until it has produced flowers.

In support of the first conclusion, so far as we observed this disease, it has spread from the place where it first commenced in an orchard, in every direction, without reference to the general course of the wind at the time, and as the Quince does not come into flower until after the Pear has shed its flowers, it cannot be attributed to an intermixture of pollen from the pear tree.

That it commences at the point of the pistil, has been evident from every case we have examined, before the different parts of the flower decayed. It often appears that no more than one flower in the cluster is infected; the fruit of the infected flower does not swell as the others, which continue their growth until mortification has, by degrees, descended through the stem, to the woody part of the fruit spur, over which it spreads, and ascends the stems of the remaining part of the cluster, which may readily be observed by a discoloration of them as it advances. In this section of country, the disease will be found to have advanced thus far by the first of June, when the leaves upon the fruit spur so affected will be found withering. After this, the rapidity with which it spreads depends on circumstances. Where there is the greatest quantity of alburnum, or elaborated sap, the disease spreads with greatest rapidity, which is increased by the state of the atmosphere, as in warm moist weather it progresses further than when dry and cool.

It is not until the middle of June that this disease begins to manifest itself to superficial observers. About this time the mortification from the fruit spray will have reached the limbs, and where they are humorous, and most of them affected, they will in a short time destroy the bush, so as to cut off all communication between the upper and lower parts of the limb, between the bark and wood. As the ascending sap passes through the sapwood to the leaves before it is elaborated, this communication is not cut off until later in the season, and the outer ends of the limbs remain green until the disease has penetrated the wood; at which time the agent of the sap is cut off, and the whole limb is discolored in a short time, often in the space of a few hours.

We do not pretend to be such an adept in the science of Vegetable Pathology, as to be able to describe the manner in which the *virus* of this disease acts upon the healthy parts of the tree, but of this we are satisfied, by repeated experiments, *that it is as capable of being communicated by infection as the Small Pox, or any disease to which the human family are subject.* The manner in which we have conducted these experiments is as follows: we have taken the discolored vivid matter from between the bark and wood of a diseased limb, and put it beneath the bark of a healthy tree, in some instances covering the wound with a strip of rag which had been dipped in melted grafting wax, in others leaving the incision open; in some instances the quantity of *virus* introduced into the healthy tree was not greater than would be used to inoculate a person for small pox, and yet in every instance, within from three to five days, the disease has shown itself spreading the same as in a tree which had it the "natural way."

Trees do not have it the "natural way," until they have put forth blossoms. We have repeatedly seen young trees growing near those which were in a diseased state, which remained in perfect vigor, and this present season we have examined one, which was of a large size, which had never produced any blossoms before, and this year only upon one small limb, which produced one dozen bunches of flowers, nearly all of which were diseased, so that we think by the first of July the limb will have turned as black as if it had been scorched by fire. Amputation is the only remedy known at present. As soon as the disease is observed the limb shoud be cut off below where it can be discovered; in doing which the operator should remember that the smallest quantity of *virus* is sufficient to communicate it to a healthy part, if brought in contact with the part between the bark and wood; he should therefore be careful not to use an instrument for amputation which has been used to examine the diseased parts, unless it has been thoroughly cleaned.

We have been thus lengthy in regard to this disease, because it is one of vital importance to every farmer who would cultivate a valuable orchard, or is fond of this delicious friut. Every Pear tree in this section will be cut off by it, unless exertions are made to check it.

UNHEALTHINESS OF NEW WHEAT.—The following article, taken from the Southern Planter, is from the pen of M. Anthony, M. D. one of the Professors in the Georgia Medical Institute.

AUGUSTA, 24th May, 1833.

SIR,—As the time of harvesting wheat is now at hand, I can no longer delay the discharge of a duty I have for some time past felt impelled to. I conceive it not less the duty of Physicians to *prevent* diseases, than to remove them when produced. Indeed, being more conversant with disease, and more in the way of observation of facts, investigating causes, &c. than other citizens, physicians have it more in their power than others, (whilst as good citizens they are not less obliged,) to plant beacons for the guidance of those who would be prudent, and thus prevent a great amount of misery and mortality.

The object of this communication is a wholesome caution to planters that they may be prevented from abusing the bounties of Providence, whereby they are supplied with fine crops of small grain, and thus, instead of preparing them for safe nutriment, render them a cause of impairment of health, and perhaps of extensive and mortal disease.

It would be well for the cause of humanity, if the planters generally could be informed of the fact that *all bread stuffs* require a certain length of time after being well ripened and gathered before they are suited for diet. It would be well also that all people should know it, so that grain, spoiled by too early grinding, may not find purchasers. This process, by which they are perfected for the purpose of good nutriment, takes place only in the *entire* grain, and has been termed *merorganization.* It is necessary not only for perfecting its nutricious qualities, but also for its preparation for the easy management of the digestive powers.

Planters should therefore be advised not to grind their grain earlier than two or three months after it has been housed, and even four or five months would be better. They should remember that notwithstanding the stalk on which the seeds grew is dead, still there is a *vitality,* or principle of life, in the grain, which, if undisturbed, goes on under proper circumstances to perfect the grain as above stated, and prepare it for the valuable end it was designed to answer. But if its *texture* be broken down by any process which destroys its vitality, as grinding, it loses this life—ceases to perfect its nature, and is subjected to a kind of dry putrefaction, by which even worms are produced in it. Thus we find in barrels of flour, made of wheat soon after harvest, innumerable small worms occupying all parts of the barrel. So likewise do we find *mites,* as they are called, abounding in some sugars, which appear from their flavor to have been prepared of cane less matured than it should be.

Noxious causes ready to excite diseases abound in the human body, especially in summer and autumn. They only await a predisposing cause to open a way for their full and free effect in producing disease. This predisposing cause is *debility.* Every one knows the importance of avoiding cold under its influence on the system. All know that the debility it occasions will introduce disease when exciting causes are present. This cold is one obvious cause, and has, therefore, long since commanded attention. But not a less certain cause, is that debility produced by other means than cold. No matter then by what means that debility is induced, it may be from the depressing passions of grief, fear, &c. It may be from excessive exertion, or excessive stimulation, leaving the body debilitated. It may be indirect, also, from excess of the exciting passions. It may be from the direct influence of scanty diet; and most certainly it may be in a two-fold manner produced by certain imperfections in the nutricious and digestible qualities of those articles of diet which constitute the main staff of life—the bread stuffs,—some of which all persons use.

Full healthy tone of body cannot be preserved but by a proper reception and application of healthy nutriment. If the process of merorganization (so called by Dr. Prout, and after him by Dr. Haygarth, of England) be not perfected, the bread will fail to afford any thing like that nourishment which is necessary. It may serve to fill the stomach and glut the appetite, and keep it so; but it will not nourish. Again, if this process be not perfected, the digestibility of the article will not be produced and taken into the stomach, exhausts all its powers, and is finally broken down by fermentation, rather than by digestion, before it is removed therefrom, leaving the organ in great debility.

Every one is anxious to obtain new flour, something of fashion, something to boast of, or novelty, seem to call for it; hence, planters are anxious to get their new grain ground and into market as early as possible; so soon as it is dry enough to be ground, it is prepared and sent to market. The last year I purchased a bar-

rel of new flour in June; at night the supper table was supplied with biscuit from it: they appeared well: the whole family partook freely of them. I ate two; a little after midnight I awoke with a pain in the stomach from flatulence, which could only be relieved by frequent eructations, which continued to disturb me until near morning. At breakfast biscuit were again served up of the same flour, of which the family again partook. My little sons, after eating what they desired, put some in their pockets to take to school. I again ate two; but said nothing to the family of the experience of the past night, that I might observe the effect on the unsuspecting members, nor did I say any thing on that subject until after about two days more, by which time I observed not one of the family took a biscuit at any meal, but all had become to think the corn bread remarkably good, took it in decided preference, and wondered at its unusual excellence, although prepared only as usual in the family.

All vegetable natures require a certain degree of perfection before they are suited for the stomach. The Irish and sweet potatoes half grown soon cloy the stomach, nor do they possess the perfect taste or nutricious virtues of the mature roots. New corn, new fodder, new hay, will not only fail to nourish, but will actually so disorder our horses as to sicken them, and if we observe but a little, even, we shall observe in a thousand instances that there is a certain fitness of adaptation which every thing must have to answer its good purpose.

Dr. Haygarth has made extensive researches on this subject in relation to Cholera, and other malignant epidemics, and so satisfactory have his investigations of facts been, that he is induced to consider a dyspeptic state of the stomach consequent on the use of bread not suited to human digestion and nourishment, as the proximate cause of Cholera; much mildew or blight, as well as the want of merorganization, impairs the quality of the bread. He observes, "That the flour of wheat ground at too early a period after gathering, will neither yield itself properly to the process of panary fermentation, nor afford due nourishment to the system." "If we regard," says he, "the panary fermentation as a test of the grain being sufficiently aged to be fitted for food, or in other words, that the merorganiztion is perfect, it would appear that the process requires several months for its performance;" and on this account, he says, it is usual in London, until about Christmas, to mix a considerable quantity of old grain with the new, before sending it to the mill. If then grain be used in its too recent state, whilst the merorganization is incomplete, too great a tax is laid on the merorganization powers of the stomach, and probably of the whole system. Thus will the stomach and collaticious viscera become disordered, and the blood unsuited to the proper purposes of growth, nutrition and health. Thus will debility be produced, which will show itself in debility of the digestive function, or in disposing the system to the ready morbid action of such noxious cause as may be present in the system, or may be applied at the time of the existence of this debility. Thus, most probably, Cholera is produced in its main epidemic character. Thus was produced those dreadful malignant epidemics which ravaged various parts of Germany, as Silesia, Vrightland, and Lower Saxony, as well as some parts of Sweden, Switzerland and France, between 1770 and 1790; they very exactly similated Cholera. This has been traced out by Dr. H., who has marked the coincidence between the time of harvest in these countries which have been visited by Cholera, and the appearance of the disease.

The Cholera, in 1829, made its appearance in Russia, about the month of August, the period of harvest in that country; that of 1830 its appearance in June at Recht, a town in Ghilan, in Persia, in lat. 37 deg.; at Baku, lat. 40, early in July; in the latter part of the month at Teflis, lat. 43; at Astracan, on 19th July; at Tyarreitza, on 4th of August; at Saratof, 6th of August; and still further north, at Penza, 17th August; and at Nisen, lat. 56, at the end of August, &c.

Fat Sheep in Summer.—A writer in the Farmer's Journal, after stating that he applies tar to the roots of the horns of sheep, and put a little in their noses and mouths, "as affording the best security against the maggot in the head," gives the following remarks on the management of sheep in summer:

"I am careful to have none of my sheep, except those I intend for market, get very fat during the summer. I have heard it remarked, and I believe it, that after once getting *very* fat, a sheep will never arrive at the same point again. Sheep which get fat during the summer, certainly do not do as well in the fall and winter. About the middle of September I give my sheep the best feed I can, and the middle of October begin to feed sparingly with turnips, potatoes, or some kind of grain. When the time arrives for yarding, which I do rather late, I separate my flock in the following manner. In one yard I put my rams and wethers, except such of the former as have become very poor during the time of running with the ewes. In the second I put my last spring lambs; in the third all my healthy ewes, and in the fourth my old and weak (but not diseased) ewes. A sixth department is a kind of hospital, into which every sheep is removed as soon as discovered to be afflicted with disease. This arrangement I consider very important, as it affords an opportunity for treating every class of sheep in the manner judged most proper for their circumstances. I have known instances in which the lot of old and feeble ewes have come out much improved in the spring, and have produced a good fleece, and raised fine likely lambs. I always intend, however, to turn my sheep before they get so old as to become enfeebled; as they are more likely to acquire those diseases which spread through the flock."

To promote Fruitfulness in Trees.—A correspondent to the Genesee Farmer, under the signature of Ulmas, recommends a vigorous growth to young trees, that they may acquire size and strength, and not exhaust themselves by early fruitfulness. He says:

"But I proceed to consider the second inquiry, to wit—To check the exuberant growth of wood, and cause it to produce fruit-buds, flowers, and fruit.

I shall assume that the trees are of well known kinds, and whose bearing qualities have been tested, and that they are situated in an open and well cultivated ground, as I believe the whole complaint can be made under no other circumstances. The trees have also been well pruned, and are accommodated with a good shaped head for bearing, and of fair size. My answer is, *Lay your ground, on which your trees stand, well down to grass, and let it remain so for several years.* The next year after seeding the ground, the growth of young wood will be much diminished, and fruit-buds will form in moderate quantities; flowers and fruit will follow the next season. That year, if the tree be an annual bearer, an increased number of fruit buds will be found, and so continue in annual succession. If, after a few years, the tree is too stationary in its growth, for it certainly will not throw out young wood very rapidly, plough, and cultivate, and manure the land, and you can supply the trees with any amount of young wood required, although the bearing will still continue in an abated degree. If you find your trees get too thrifty, you have only to seed down again, and manage as circumstances may require."

The following reasons why grass produces the effect seem to be satisfactory. We presume a few crops of almost any exhausting grain without manure would have the same effect. It is strongly impressed on our mind, that we have heard of pear-trees of many years' growth in grass ground, producing no fruit until the soil was disturbed by the plough. Ulmas says:

"While trees are young, their roots expand and run near the surface of the earth. If the ground be cultivated, the earth is warm and light, and the roots absorb much nourishment, and a rapid growth of young wood is the sole consequence. In process of time, as the tree increases in size, the roots find their way deep into the earth, where the temperature is lower, and its growth is by degrees checked; fruit-buds are consequently formed, and trees come into the bearing state. Now, putting land into grass has the same effect. The sun is hidden from the earth; the temperature is lower; the richer nutricious gases of the soil are absorbed by the grass, and the same result is produced as if maturer age had forced the roots more deeply in the ground."

Weight of Water.—The substances imbibed by water, and consequently its weight, depend, in a very considerable degree, on the nature of the soil through which it runs. Bergmann gives the following comparative statement:

Distilled water - -	1000
Spring water -	1001 to 1005
River water - -	1010
Sea water - - -	1012
Stagnant water - -	1102

Organic Remains.—One of the most interesting subjects connected with the study of the material world is that of the organic fossils found in the various strata of rocks composing the earth. In general, the remains of such animals and vegetables as now exist on the earth are found in strata near the surface; lower down are discovered extinct species of genera that now live; and still lower are met with both extinct genera of species. This regular succession is a very extraordinary and important discovery in geology. Another important distinction is observed in relation to this subject. The uppermost strata of rocks contain the higher order of animals and vegetables, and the lowest are found in the lowest of those containing fossil remains.

Petrifactions.—Fossil vegetables are formed most frequently of quartz-agate, onyx, or jasper, and pyrites. Petrified ears of corn, impregnated with silver, copper, and other metals, have been found. Petrifactions of fruit are not common. They have been found on heights where now they do not grow. A trunk of a petrified tree has been found upon Mount Stella, in the country of the Grisons, at 4000 feet above the height where the last shrubs grow. In Spain, near the town of Munda, at an elevation of 1500 feet above the sea, there exist entire beds of petrified wood. The impressions of plants found in Europe generally, are those belonging to the tropical climates of India and America. The strata in the environs of Paris have furnished *sixty genera* of fossil shell animals. At Roetwick, in Sweden, 3000 feet above the sea, entire beds of fossil shells are found; also, upon the summit of Mount Perdu, 10,578 feet high; and the tops of the Andes, 13,200 feet high, are covered by ostracites, or petrified oyster shells. Such are some of the facts showing that our globe has undergone great revolutions.

Mr. Fellenberg's Establishment, Cows of Switzerland, &c. [From the New-England Farmer.]

The following letter, written in French, by the celebrated agriculturist, M. Fellenberg, of Hofwyl, Switzerland, to the Hon. Thomas L. Winthrop, President of the Massachusetts Society for promoting Agriculture, has been translated for the New-England Farmer:

SIR,—I have the honor to enclose herewith a letter of thanks to the Agricultural Society of Massachusetts; and hasten to reply at the same time to your inquiries respecting our milch cows, and our bulls. I do not believe that you would find it for your advantage to acquire them, unless your breed of cattle should be extremely bad; ours speedily degenerate when sent abroad, and the transportation of them will be attended with great expense. The season is also unfavorable to their purchase; cattle, when taken immediately from their stalls, are very apt to be injured by long journeys. The best time to purchase them is in September or October; in those months they return home, of course, from our mountains. Our best cows do not give but a little more than four pots of milk a day; the medium quantity for the entire year; the pot of milk weighs four pounds, of 18 ounces. It is advisable to purchase the heifers, which will cost you from ten to twelve French louis-d'ors each, in the autumn; the bulls may also be purchased at about the same price; but it is the expense of transportation which makes me fear for your interest. However, notwithstanding my observations, if you shall still be desirous of having these animals purchased, I will give orders to have sent in the autumn, to Havre, those well chosen, to the address of the persons whom you shall please to designate.

I pray you, sir, to accept my most cordial salutations, EMANUEL DE FELLENBERG.

Hofwyl, April 16, 1833.

REMARKS OF THE EDITOR OF THE NEW-ENGLAND FARMER.—It perhaps may not be amiss, in this place, to give some notices of the celebrated establishment of M. Fellenberg, the writer of the above letter.

The establishment at Hofwyl, near Berne, was invented, and is conducted at the sole expense of M. Fellenberg, and was founded in 1 09. His object was to apply a sounder system of education to the great body of the people, in order to stop the progress of error and corruption. He undertook to systematize education, and to show on a large scale how the children of the poor might best be taught, and their labor at the same time most profitably applied; in short, how the first twenty years of a poor man's life might be so employed as to provide both for his support and education. The peasants in the neighborhood were at first rather shy of trusting their children for a new experiment; and being obliged to take his pupils where he could find them, many of the earliest were the sons of vagrants, and literally picked up in the highways: this was the case of some of the most distinguished pupils. Their treatment is nearly that of children under the paternal roof. They go out every morning to their work soon after sunrise, having first breakfasted and received a lesson of half an hour: they return at noon. Dinner takes them half an hour; a lesson of one hour follows; then to their work again till six in the evening. On Sunday the different lessons take six hours instead of two, and they have butcher meat on that day only. They are divided into three classes, according to age and strength; an entry is made in a book every night of the number of hours each class has worked, specifying the sort of labor done, in order that it may be charged to the proper account, each particular crop having an account opened for it, as well as every new building, the live stock, the machines, the schools themselves, &c. &c In winter, and whenever there is not out-of-door work, the boys plait straw for chairs, make baskets, saw logs with the cross-saw and split them, thrash and winnow corn, grind colors, knit stockings, or assist the wheelwright and other artificers, of whom there are many employed in the establishment. For all which different sorts of labor an adequate salary is credited to each boy's class.

The education of the boys consists chiefly in inculcating habits of industry, frugality, veracity, docility, and mutual kindness, by means of good example rather than precepts; and above all, by the absence of bad example. It has been said of the Bell and Lancaster schools, that the good they do is mostly negative: they take children out of the streets, employ them in a harmless sort of mental sport two or three hours in a day, exercise their understanding gently and pleasantly, and accustom them to order and rule without compulsion. Now what these schools undertake to do for a few hours of each week, during one or two years of a boy's life, the *School of Industry* at Hofwyl does incessantly, during the whole course of his youth; providing, at the same time, for his whole physical maintenance at a very cheap rate.

With regard to the Swiss possessing a superior breed of cows, we have seen notices to that effect in American newspapers; these reports, however, are not confirmed by the foregoing letter of M. Fellenberg.

HOW TO HAVE MISCHIEVOUS CATTLE.—Some farmers have a peculiar faculty of learning their cattle to jump and push down fences. We conclude that this may be done by making a fence three or four rails high in the first place, and as soon as the cattle, horses or sheep, have practiced sufficiently on this, add one rail more, and they will soon learn to get over it; to this add rails and stakes sufficient to make a good fence, and we pledge you our word your cattle will trouble you occasionally, as the fence becomes weak. Now what is gained by this course? Nothing; but much lost. The fence has cost *double* what it would have done to have built it properly in the first place. Crops are destroyed, the reputation of the stock injured, consequently their sale, friendship with neighbors broken, &c. This is training them in the way they should *not* go. But if you train them in the *spring* in the way they *should* go, in the summer and fall they will not depart from it.—[Farmers' Reporter.]

RECIPE FOR DESTROYING ANTS.—Take wheat bread in thin slices, (say half an ounce in weight,) dry it slowly, but well, and pound it in a mortar; three quarters of an ounce of fine loaf sugar, powder it also; then, add half an ounce of the oxide of arsenic, commonly called levigated mercury; triturate the whole in a mortar, then put it into a clean glass bottle; of course, it is a strong poison; very small portions of this may be applied on bits of glass, or the flat side of an oyster shell, as the smell of an oyster shell is also an excellent decoy to ants. Small bell-glasses, such as are used for striking cuttings, or small flower pots, may be placed over it to prevent moisture from rendering it pasty, as well as to hinder any domestic animals from taking it. This poison is equally as fatal to vegetable as to animal life; for if it be laid on the soil round the stem of an orange or other plant, it will corrode the bark and alburnum to the destruction of the plant. —[Horticultural Register.]

CURIOUS FACT IN THE ECONOMY OF BEES.—M. de Jonas de Gelieu, pastor of the churches of Colombier and Auvernier, in the principality of Neufchatel, Switzerland, in a work translated into English under the title of "The Bee Preserver, or Practical Directions for Preserving and Renewing Hives," affirms a very important and singular fact with regard to the economy of bees. It is, that "when two or three distinct hives are united in autumn, they are found to consume together scarcely any more honey during winter than each of them would have consumed singly if left separate." In proof of this remarkable circumstance, the author states a variety of experiments, to which he had recourse; and all of which led uniformly to the same conclusion. And, indeed, he shows positively, by a reference to upwards of thirty hives, six of which had their population thus doubled, that the latter do not consume more provisions during winter than a single hive does, and that, so far from the bees suffering from this, the double hives generally send forth the earliest and best swarms. The translator, says the Quarterly Journal of Agriculture, who is a lady of great accomplishments, and habits of correct observation, has practiced in Scotland most of the plans recommended in the original work, with the same results as the author.

System of Farming in Virginia. By JOHN H. CRAVEN. [From the American Farmer.]

Penpark, Va. June 12, 1833.

MR. SMITH,—Agreeably to my promise, I have sat down to give you the result of my experience in farming for forty years. I removed from the county of Loudoun, to Albemarle, in the all of 1799, with but little experience in farming generally, and much less in improving worn-out land. At that time the whole face of the country presented a scene of desolation that baffles description—farm after farm had been worn out, and washed and gullied, so that scarcely an acre could be found in a place fit for cultivation. It will be well to observe here, that there is a ridge of red land passing through the counties of Albemarle and Orange, whose soil was of the very best qual ty, and susceptible of the highest degree of improvement, but which had at the same time been *butchered* by that most horrible mode of culture adopted by the first settlers of this country. The practice then was to clear the land, to put it in tobacco for three or four years in succession, according to the strength of the soil, afterwards in corn and wheat alternately, or corn and oats, so long as it was capable of producing any thing. They never ploughed in those days, but simply scratched the ground, and this too, right up and down the steepest hills, instead of horizontally, with those little one-horse half share or shovel ploughs, until the whole of the virgin soil was washed and carried off from the ridges into the valleys. This is a very imperfect description of the face of the country at the time of my settlement here; I believe it would not be saying too much, if I were to affirm, that there had not been before that period one good plough in the county. Col. Thomas Man Randolph had commenced the horizontal ploughing on his farm; but, for the want of good ploughs, it was a long time before he could succeed sufficiently well to induce others to adopt the same plan. Indeed, there were many who, though considered at that time good practical farmers, were disposed to ridicule it for years after Col. Randolph had adopted it. * * * *

I will now proceed to give you a more particular account, both of my practice and success in the business of reclaiming exhausted land. The farm, which it is my lot to possess, lies near the town of Charlottesville, has been obtained by small purchases at different times, and now contains from two to three thousand acres. This tract of land is acknowledged by all to have been more completely galled and butchered than any other of the same size in this neighborhood. My practice has always been to plough as deep as possible, and accordingly, my constant direction to my ploughmen (*men*, not *boys*, for I do not suffer boys to plough) is not to be afraid of ploughing too deep, provided the horses can pull the plough. For some years past I have made use of four horses in flushing the land, but from the great disadvantage they have labored under, in consequence of the very undulating surface of my farm, sometimes ploughing too deep, and at others too shallow—as, for instance, in ascending a hill, the lead horses would draw the plough out of the ground, while in descending, they would plunge it so deep as to be unable to pull it at all—I have been compelled to use three horses abreast, which is as small a force as

any farmer should think of applying; notwithstanding, even this mode has its objections, principally arising from the danger there is that the horses, when turning, unless great care be taken, will cork themselves. Mine have been frequently injured in this way. * *

And here, permit me to say a word in relation to the question of deep or shallow ploughing, which I have seen recently discussed in the Farmer. My opinion, which is founded entirely upon experience, is decidedly in favor of the superior utility and value of deep ploughing. For about twenty years, I have been ploughing as deep as I could on the farm where I now reside, without having in a single instance injured the crop; and more than this, I have, in the mean time, restored the land from the most extreme state of poverty to that of at least good farming land; indeed, a great deal of it is as rich as is necessary for a wheat crop. The rotation of my crops has been once in corn, and twice in wheat, rye or oats in five years, giving two full years in five for clover, and in the mean time dressing the land twice with plaster, (or at least rolling all my seed of every description in plaster,) with from one bushel to one and a half the acre. By putting this quantity upon the clover, the spring after it is sown insures me a crop on almost all my land sufficiently large to mow. Every acre of my farm not under cultivation is kept in clover. With respect to the production and the application of manure, I have never pursued any uniform course, but have been frequently making experiments. I was once inclined to believe that no other way was right, but to haul it out and plough it under as soon as possible, not allowing the sun to shine on it more than could be avoided, and so strong had been the force of habit and of education, that I pursued this course for several years, without ever supposing for a moment that any other course was or could be right. But, as a large portion of my land had been so completely exhausted, and galled and ribbed by rains and bad treatment, that to put upon it manure in its rotten state would be worse than folly, I came to the conclusion, that it would be a better mode to cover all its deep sores with thick plasters of unrotted straw, carried directly from the machine. In order to save labor and time, this straw was carried out as a return load while engaged in thrashing the wheat; for our practice in this county differs from the common practice in many other places, especially at the north, in not stacking our wheat, but in taking it directly from the field to the machine. This mode has been forced upon us by the apprehension, that if it were allowed to remain for a long time unthrashed, say till the month of August, it would be destroyed, or at least materially injured by the weevil. But, to the point—I am fully of the opinion that this description of land cannot be so well improved in any other way as in the one just mentioned, for by the time the coat of straw is completely rotten the land will possess sufficient life and strength to manufacture or produce its own covering. A few other experiments, which I have made in regard to manure, may be worth your attention. In the fall of 1828, I commenced fallowing my land, and carrying out my manure at the same time. The manure was spread and ploughed in with my large ploughs; but as I had a considerable quantity to haul, and some distance to haul it, I did not finish until some time after I had sowed my crop. I made, therefore, four different experiments: a part of the manure was ploughed in with the large ploughs—a part spread on the broken upland and harrowed in—a part spread on the surface after the wheat was sowed—and a part spread upon the snow, according to the practice which, as I am told, exists in Pennsylvania. The first experiment succeeded the best and contributed most to the permanent improvement of the land—the second did not vary much in its results from the first—the third produced the greatest crop the first year—the fourth did not succeed at all, as it killed a great portion of the wheat. * * * * * *

Before I conclude this letter, I wish to add another remark, in regard to the subject of deep and shallow ploughing. This seems to be the more necessary, not only because public discussion is now awake, but because I have a fact to communicate, about which I am greatly astonished that so little has been said, and which may afford us some light. It is this—if you plough your land ever so deep, so much so as to hide every particle of the soil, by the next season it will have all returned to the surface without any subsequent deep ploughing—a fact which I do hope some of your more experienced correspondents will explain for me. In whatever way it may be explained, it does seem to me to speak most powerfully in favor of deep, instead of shallow ploughing. In my view it is reduced to a certainty, that just so deep as the plough goes, just so deep the soil goes and no deeper.

Value of Cocoons—their quality and preparation for market. [From the American Farmer.]

So many inquiries are daily addressed to us for the price of cocoons, the manner of preparing them for market, &c. &c. that we deem it proper to give the information in this way. It is impossible to state the exact value of cocoons except upon inspection. They may appear to the unpracticed eye to be of the first quality, being of the largest size and of the firmest texture, and yet worth nothing for reeling; because, they may be *double*, (spun by two or three worms,) which so interlock their fibres as to render them incapable of being reeled; or they may have been injured in the process of curing, or smothering the insects, which cannot be detected by any one but the reeler, or one skilled in the business. Both these descriptions of cocoons are worthless to the reeler. The same well formed and large cocoons, though free from the above faults, will be more or less valuable according to the manner and degree of curing. For example, a parcel of cocoons of first quality, as to size and form, if just cured with the body of the crysalis moist and fresh, will be worth twenty-five per cent. less than a like parcel with the crysalis perfectly dry; because, in the first place there is less weight of silk fibre in the pound of cocoons, and in the second place the moisture of the crysalis renders them extremely liable to mold. All these considerations, therefore, render it impossible for us to say what cocoons are worth. The purchaser must *examine* them before he can say what he will give for them, and his judgment will be regulated by the proportion of *double*, imperfect, or injured cocoons the parcel may contain, compared with the good sized, well formed, and well cured ones. If the cocoons are of good size, have been well cured, and the crysalis well dried, and if there are no double, imperfect, or injured cocoons in them, they will be worth fifty cents a pound; and less in proportion to the number of faulty ones, till the value will be reduced to twenty-five cents a pound—and it would be not worth while for the reeler to trouble himself with any that would not be worth the latter price.

Cocoons of the first quality can only be produced by strict attention to the worms, to the curing, and preparing for market. The little "Treatise on the Culture of Silk," by the Editor of the American Farmer, for sale at this office, price twelve and a half cents, contains all necessary directions on the subject. The worms must be kept supplied with as much food as they will consume, fresh and free from moisture; they must be kept clean, dry, and well aired. When they begin to spin they should have proper mounting frames, and not be crowded for room in forming their cocoons—this is necessary, to prevent double cocoons. As soon as the cocoons are finished they should be cured by baking, steaming, or exposure to the sun. In baking them great caution is necessary, to avoid scorching them. In steaming, equal caution is necessary to avoid discomposing the fibre—they should not be touched or stirred till they have become dry and cold. In curing them in the sun, care must be taken that they are exposed a sufficient length of time to kill and dry the crysalis. Whatever mode of curing is adopted, the cocoons should be exposed to the sun or spread out in a dry airy place, to dry perfectly; and they should never be packed up for market or future use, till the crysalis shall have been found (by taking several out of them) to be perfectly dry. When they are ready to pack up for market, they should be examined, all faulty ones taken out, and then packed in barrels or boxes, by putting in just as many as the box or barrel will hold by gentle shaking down, but without pressure; a few *cloves* or other pungent aromatic should be put in each barrel or box, to prevent mildew; and the box or barrel conveyed to market with as little agitation as possible. If the cocoons are mashed or much dented, they cannot be reeled.

The greater part of the cocoons that have been offered for sale were not worth any thing. Probably nine-tenths that are raised are so imperfect that the reeler can make nothing of them. The cause of their imperfection may be always traced to the carelessness and inattention of those who attended the worms. If the worms are stinted in their food; if wet or injured leaves have been given them: if they have been crowded on the tables or mounting frames, or disturbed after they began to spin, the cocoons will be more or less imperfect, according to the degree of such bad treatment. The best cocoons are always made by worms that begin to spin on or before the twenty-eighth day after they were hatched; and they can only be made to do so by giving them a full supply of fresh clean leaves; keeping them clear of litter, not crowded on the tables, and airy. Good cocoons are made by worms that begin to spin on or before the thirty-fifth day; but those that are longer in beginning to spin have been so stinted in food, or so retarded by unfavorable weather, that their cocoons will always be imperfect. Perfect cocoons will generally weigh from the sixteenth to the twentieth of an ounce. We have often had them to weigh the sixteenth of an ounce, and would not call any perfect that did not weigh the twentieth. But good cocoons, when the crysalis is perfectly dry, will often be found to weigh only the twenty-eighth to the thirtieth of an ounce. The degrees of quality of imperfect cocoons are so various, that it is impossible to describe them. If they are soft and flimsy, though of full size, they are to be considered imperfect, according to the degree of softness, and depreciated in value, in the same proportion. If one end is soft, or not perfectly occupied by the fibre, appearing to have a hole in them partially covered or open, they are to be rejected as bad. If they are stained, which is often the case, by the crysalis having passed into the fly state and made an attempt to emerge by discharging a fluid on the inside, before it was killed, they are to be rejected as bad. And, finally, if the worms are sickly, their cocoons will be flabby, and generally small, light and imperfect. A first rate cocoon will weigh the sixteenth of an ounce, be of an oblong oval form, firm texture, and granulated surface; and according to the degree of variance from these qualities, will be the imperfection of imperfect cocoons.

Horn Distemper.—No. 45, page 353, you quote from the New-York Farmer a recipe for the use of the horn distemper. It is judiciously written, and the writer says he seldom finds any other treatment necessary.

One of my neighbors informs me that every case of horn ail can be radically cured by taking a common sized hen's egg, perforating a small hole in each end, blowing out the white, enlarging the hole at one end, and inserting and mixing with the yolk a composition of black pepper one-third, and refined saltpetre two-thirds, both well pulverized and intimately blended, till the shell is full, and put it down the animal's throat so that it may be swallowed.

He says the case must be a neglected and severe one that requires the second dose to make a perfect cure.

Before he knew this, his animals were subjected to having their horns bored, sawed off, and otherwise ill treated, and sometimes died, subsequent to these operations, of the same disease.

I find good currying and carding every morning, with dry lodgings at night, an admirable medicine for keeping my neat cattle in health, and wish this custom was more generally pursued, in the winter particularly,—in

ESSEX NORTH.

ISABELLA WINE.—It has become generally known among my friends and acquaintance, that last season I made a quantity of wine from the Isabella grape; in consequence of which I have had numerous applications within two or three weeks to furnish the *receipts* by which I made the wine. I have only refrained heretofore from publishing it from the knowledge of my own inexperience in the matter; and I would now refer inquirers to that excellent work of *Mr. Adlum*, of Georgetown, D. C., and also to the translation of a French work of *Thiebaut De Berneaud*, published by Mr. Canfield, of New-York, where full information may be found on the cultivation of the vine, and the manufacture of wine.

I feel it a duty, however, to give a statement of my process last season, which was successful in yielding me fifty gallons of excellent wine, from a grape which is becoming very plentiful among us, and which I had not known to have been fairly tested as a wine grape.

1st. I gathered the grapes when well ripe and dry, but did not exclude green and unripe grapes, nor pick them from the stems.

2d. Crush and bruise them in any way without breaking the seed. If the skin of the grape is only broken, it is sufficient, as the pulp will dissolve during the first fermentation.

3d. Put the *must* (or pumice) into an open cask or vessel, (which I shall call a *vat*,) and stir it well during the first day, keeping it covered over the top with a cloth.

4th. The must will rise in the vat for three or four days, and when it has ceased to rise the liquor must be drawn from the bottom of the vat as long as it will run.

5th. Press the must in any convenient way, to extract the remainder of the juice.

6th. Put it in a cask, which should be full, in order that the impurities may flow over by fermentation at the bung.

7th. Put two pounds of sugar to each gallon of liquor, unless you choose to risk the possibility of your wine becoming vinegar.

8th. Fill up the cask as often as it sinks below the bung.

9th. After it ferments eight or ten days put in the bung, and leave a very small vent by the side of it.

10th. After remaining about two months, rack it off into a clean sweet cask, well scented with a brimstone match, burnt within. If it is not fine and bright, it would be well to *fine* it with the whites of eggs beat up with sand.

11th. In the month of March it should be again racked off into a cask or bottles, and placed away for use.

The wine will be of a beautiful red color, and will at first appear sweet, but will gradually become sharper and still retain the delightful flavor, as well as odor of the grape. Mine has not yet attained a year in age, and I cannot tell what changes might be effected by time.

The Isabella grapes are very plenty this season, but, by reason of the wet and cold, are much inferior in flavor to what they were last year, and are not yet perfectly ripe. In a few weeks I shall probably make a greater quantity of wine than last season; and as some of my neighbors are also attempting the same, I hope to be gratified in hereafter giving our experiments to the public. ALDEN SPOONER.

Brooklyn, October 10, 1832.

COBS OF INDIAN CORN.—Mr. Fessenden: Are corn-cobs most profitable for manure or fuel, when hard wood is three dollars a cord?

If you will have the goodness to communicate your opinion on the subject through the medium of your useful paper, the New-England Farmer, you will greatly oblige

A YOUNG FARMER.

By the Editor.—We are not able to say whether corn-cobs would be most valuable for manure or fuel, but believe the latter, as it requires a long time to rot, or decompose them in such a manner that they would be useful as manure.

But we believe the best use to which corn-cobs can be applied, is to grind them together with the corn, and give the mixture to swine, or other domestic animals, which it is wished to fatten. The following extracts from a letter from the Rev. H. C. Perley, of New Rowley, Mass. to the Editor, may serve to explain and corroborate this assertion.

"I had corn and cobs ground together; and I put but about a peck of corn to a bushel of cobs. Meal made of this composition I scalded, and made about as thick as hasty pudding; or mixed about one peck of meal with three pecks of boiled potatoes, thickened to the consistency of pudding. With this kind of food, and what wash was made in the family, I constantly feed my swine; there were none in the neighborhood grew so fast, or were fit to kill so early in autumn. * * *

"I have also made further discovery of the use of cob meal, for other purposes besides feeding swine and cattle. I had one batch of coarse brown bread made of it, groun l about half and half; sifted as usual, and the application of the usual quantity of rye meal. The bread was as high seasoned, as light, as sweet and as moist, as that made of pure Indian and rye meal; though I think it will dry rather sooner."

In the *Massachusetts Agricultural Repository* for January 1823, is a communication from Asa Rice, Jr. of Shrewsbury, in which the writer observes as follows: "The kind of meal I have used for seven years past, almost exclusively, for provender, is corn and cobs cracked and ground together, which is the best provender I ever made for fattening cattle. The reason I consider the cob useful is, it swells in the creature, and keeps him in good order. In no one instance since I have fed with this meal have my cattle been out of order by being cloyed, or scouring; they are at all times regular; but when I formerly fed with clear Indian meal, it was not unfrequent that their bowels would get out of order, and I have had considerable difficulty in regulating them again; they lost two or three days, sometimes a week. When this kind of provender was first introduced in this vicinity, it had its opposition like almost all new things. The second year, if I mistake not, which I made use of it, I thought I would try an experiment as follows, by feeding one ox with corn and oats ground, the other with corn and cobs, having a yoke of oxen so even matched that no one who viewed the cattle appeared satisfied which was best: accordingly I fed them as above. The cob is computed to make a little more than one third, therefore, I mixed the other with one third oats, which was my former mode. I gave each ox an equal quantity at a time, except the one which had corn and oats some days became dainty, and would not eat his allowance, while the other kept his regular course. The allowance for both was a little over three pecks per day. When I took the cattle to market Mr. A. White bought them; they weighed about 28 hundred and a half. The one fed on corn and oats had 162 lbs. of tallow, and weighed about half an hundred more. The one fed on corn and cobs had 163 pounds of tallow, and Mr. White pronounced his beef half a dollar on the hundred better than that of the other, mostly on account of the *color of the beef*."

The third volume of the Memoirs of the Philadelphia Agricultural Society likewise contains an article on grinding Indian corn in the cob, as food for cattle, &c. by Dr. Mease, of Philadelphia. Mills, for the purpose of grinding corn and cobs together, have been erected in Andover, Danvers, and, we believe, other places in Massachusetts. Perhaps a large mortar, with a mallet or pestle, might answer for cracking corn and cobs, and pulverise them sufficiently for cattle food.—[New-England Farmer.]

ALBATROSS.—*Sag-Harbor, June 8th.*—Capt. Jones, of the ship America, of this port, has obligingly handed us a label, or piece of board, about nine inches in length, and two in breadth, which he took from the neck of an Albatross, on the 16th of October last, in lat. 38.30 S., long. 1. 30 W., containing the following inscription, cut on the same—"Portland of Newburgh, lat. 23 00, long. 30 04, 90 days out, with 140 bbls. sperm oil."

The Portland sailed from Sandy Hook on the 23d June, which makes the time of affixing the label on the bird's neck the 22d of September, or 23 days from the time it was put on until it was taken off—the true course from whence the bird started with the *report*, to where it was delivered, was south 60 east, true distance direct 1869 miles.

It is a little extraordinary, that the captain, officers, and part of the crew, of the Portland, belonged to this port, and the former a neighbor of Capt. Jones, who received the *dispatch*, and when it is considered that the bird, especially if a female, has a vast many "morning calls" to make in a *crinklem-cranklem* course, and other indispensable *et-ceteras*. It was doing well. Apropos: we wish PostmasterBarry's Albatrosses were equally as correct and industrious.

THE WEEVIL.—Salt is said to be a complete preventive against the destruction of wheat by the weevil. Mix a pint of salt with a barrel of wheat, put the grain in old salt barrels, and the weevil will not attack it. In stacking wheat, four or five quarts of salt to every hundred sheaves, sprinkled among them, will entirely secure them from the depredations of the insect, and render the straw more valuable as food for cattle.—[Hort. Reg.]

A NEW HONE.—A new Hone has recently been invented, which is made entirely of glass, and is said to combine the excellencies of the common hone and the strap, and to be superior to both. Without the use of either oil or water, it gives a perfectly smooth edge, while it polishes the instrument at the same time. It does not wear away like the common hone, but will last a life-time.—[Springfield (Mass.) Rep.]

COAL.—The Kingston Sentinel states that the shipment of coal on the Hudson and Delaware canal is brisker than ever, and that 54 vessels departed from the Rondout, all loaded with coal, during the week ending the 22d of June. These vessels were chiefly from the Eastern ports. The whole number of boats which arrived at tide-water, Eddyville, from the 15th to the 22d June, was 308, of which 226 were coal boats, with 6,341 tons coal. Cleared during the same week, 260 boats.

CANAL TOLLS.—The tolls collected on all the canals of the state, for the month of June, amount to the sum of $174,646 90, being $4,260 38 more than the receipts of the corresponding month of the last season. The following statement exhibits the sum received on each canal for the month of June, to wit:

On the Erie canal - -	$148,170 46
Champlain canal - -	21,165 24
Cayuga and Seneca canal -	2,411 17
Oswego canal - - -	2,900 03
	$174,646 90

The whole sum received for tolls from the opening of the navigation to the 30th of June, two months and eight days, is $500,211 94 cents; being $58,240 96 more than the receipts up to the same period in 1832.

CAULIFLOWERS.—Instead of cutting off the whole head of a cauliflower, leave a part on, the size of a gooseberry, and all the leaves—second and even third heads will be formed; and thus they may be eaten for two or three months; when, by the present practice, by cutting the head off completely, the bed of cauliflowers is gone in two or three weeks.

CUTTING WHEAT BY HORSE POWER.—Several members of the Agricultural Society, last Wednesday, attended near Carthage to see a machine for cutting wheat by horse power in operation. It was propelled by two horses, and cut as fast as eight men could conveniently bind, doing the cutting neatly. This machine is the invention of Mr. O. Hussey, and will no doubt prove a useful addition to our Agricultural implements.

Mr. J. C. Ludlow suggested that it would be good economy of time and labor, to take a thrashing machine into the field and thrash out the grain as it is raked, thereby saving the binding and hauling to the barn or stack. We think the suggestion a good one.—[Cin. Far.]

HEMP.—Mr. Clay, of Kentucky, we believe was the first who introduced the culture of this plant in the United States. It is now raised to a great extent in several counties of that state, and forms a source of wealth to those who raise and manufacture it. Many have amassed large fortunes in its traffic. During a late visit to that quarter we ascertained that the produce to the acre was, on an average, about 800 lbs. and the average price about five dollars per cwt. It is generally sold by the farmers to the manufacturers in the different villages, and by them made into bagging, bales, and other kinds of untarred cordage.

The price of American hemp is quoted in the N. Y. Market at 120 to 150 dollars per ton—Russia clean, 200 to 205 dollars.

An attempt was made two or three years since to introduce it into the state of Connecticut, and the country farther north. The plan succeeded, and the hemp grew well. Two or three men, who were up to a thing or two, appeared at Canterbury, near Norwich, with large quantities of hemp seed for sale. They proposed to sell the seed to the farmers, and gave instruction how to cultivate the plant: they stated that they had made arrangements to return in the ensuing autumn to erect machinery for its manufacture, and would give so much per ton for all that could be raised. This took well, and the rogues sold all their seed at enormous prices, and decamped; the hemp grew, was stacked, and remained in that situation, to our knowledge, a year afterwards, waiting the return of the originators of the hoax.

FIRE PROOF CEMENT.—The French cement for the roofs of houses, to preserve the wood and protect it from fire, is made in the following manner:

Take as much lime as is usual in making a pot full of whitewash, and let it be mixed in a pail full of water; in this put two and a half pounds of brown sugar, and three pounds of fine salt; mix them well together, and the cement is completed A little lampblack, yellow ochre, or other coloring commodity, may be introduced to change the color of the cement, to please the fancy of those who use it. It has been used with great success, and been recommended particularly as a protection against fire. Small sparks of fire, that frequently lodge on the roofs of houses, are prevented by this cement from burning the shingles. So cheap and valuable a precaution against the destructive element ought not to pass untried. Those who wish to be better satisfied of its utility can easily make the experiment, by using on a small temporary building—or it may be tried by shingles put together for the purpose, and then exposed to the fire.

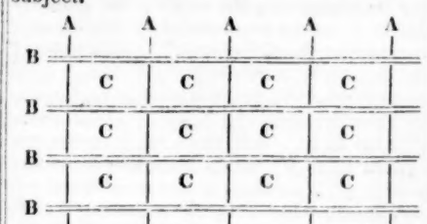
A New Invention in Road-Making, with the Use of Timber. By JOHN HARTMAN. To the Editor of the American Railroad Journal.

SCOTTSVILLE, Albemarle Co., Va.
July 4, 1833.

DEAR SIR,—Not having the pleasure of a personal acquaintance, but being assured by the Editor of the Virginia Farmer that you will take pleasure in noticing an invention in road-making with the use of timber, which, thus far, is considered as very valuable, I take the liberty of asking your attention to it.

The plan is one which is capable of demonstration, and will be found valuable in timbered countries, particularly where stone is not plenty; and where it is, and timber is equally so, and interest is allowed on the difference of cost, I have no hesitation in saying, that the use of timber will be preferable, either for flat or hilly countries.

I will give you a rough diagram and description, and then say a word more upon the subject.



The lines A represent good locust, cedar, oak, or other timber, of 10 or 12 inches diameter, of lengths to suit the road, laid across it, say 8 or 10 feet apart, rough, for the rails B to lie on, which should be good lasting timber, of from 15 to 20 inches diameter, sawed through the centre, with the edges hewed off, leaving a surface of from 10 to 15 inches, (further experiment must prove which is best, a wide or narrow rail,) bedded, and pinned or bolted down upon the sills A; and, upon the out edge of each, spike on scantling, say three inches square, as guides for the wheels, or upon each edge of the rails or timbers B, forming a groove for the wheels. I however consider the first plan best; then fill up the spaces C level with, or rather above, the rails B, for the horses; the wheels, of course, to run upon the rails B. When two tracks are put down, the space between them must also be filled level, so as to admit waggons, stages, carriages, &c. to pass from one track to the other, when necessary, as no impediment will present itself but the scantling, and that only on one side, which would amount to nothing, nor would the occasional crossing of this scantling injure it, as it would rarely or ever occur twice in the same place.

You see it is quite a simple plan. I will mention some of the advantages it offers for a new road, over M'Adamized, and particularly on hill sides. In the construction of a new road there is no necessity for grubbing, low cutting is quite sufficient. These timbers are put down on the surface of the ground; then, by cutting a ditch on each side of the road, earth enough is obtained to fill up the horse path or way, between the rails, which should be well rammed, or packed down, by a machine just invented for that purpose.

The elevation given, and the fact that it must be kept in shape, or together, by the timbers, which, with the side drains, will guarantee a good road, even in a marsh, for it is a known fact that it is the wheels of carriages and waggons, and not the horses' feet, which are so destructive to roads, by following always the same track, hence the collecting of water in them, and mud-holes. On hill sides the plan will be admirable, requiring the sills only to be levelled, either by large rough stone, where they are found plenty, as they frequently are on mountains; or timber may be substituted on the lower side, with a little digging on the other. You have the frame level; the earth then taken out on the upper side of the rail, to carry the water off, will fill up the track for the horses, which gives a perfectly smooth road, with less labor and expense generally than would be necessary for a single track of common turnpike, and no fear of its cutting up or wasting away by every rain. The side rails you see will effectually prevent the water from washing the road; and you see the facilities this plan gives for crossing gullies, forming culverts, &c. A double track can be put down, depending upon the convenience and cost of timber, and filled with earth for from 8 to $1200 a mile, which is but little above the average cost of shaping or throwing up a road of earth alone, 20 feet wide. Bear in mind, too, that 15 feet is wide enough for this plan, whilst, to M'Adamize, it must be, for a double track, from 30 to 40, which forms a heavy item of the expense, and the delay in M'Adamizing should not be forgotten, for the earth must settle before the stone is put on it.

I wish you to give this an insertion in the Railroad Journal, with such remarks as you may think proper. I ask, however, to reply to any objections that may be started. We know, from experience, that the timbers will not *wear* out, and that they *must last* as long as in *railroads*. The design is for common waggons and carriages.

There is no doubt but it will be immediately tried upon a turnpike, connecting the James River at this place with Staunton in the Valley, a distance of 44 miles, instead of M'Adamizing. I have found in the last two weeks, in a journey to Washington City and Baltimore, that, without an exception, and amongst the number several of the most intelligent and practical men found there, including several superintendants of graduation and construction of the Baltimore and Ohio Railroad, and Cumberland roads, being practical engineers, and not an individual but had the very best opinion of it, or feared its not being very valuable for collateral roads. I have no doubt that it will prove a great acquisition to the internal improvement of our country, and give great facility for the speedy transportation of the mails in winter.

It is thought generally that timbers will last better to have them burnt or charred, instead of taking the bark off.

Yours, most repectfully,
JOHN HARTMAN.

PERSEVERANCE.—Perseverance generally wins the prize, while despondence always loses it. Without perseverance, Columbus would never have gained the immortal fame of discovering a new continent.

HAPPINESS.—Happiness does not so much depend upon our circumstances, as the agreement between them and our dispositions.

GRAVITY.—Gravity belongs more to the *ass*, than the horse; it oftener conceals ignorance than indicates knowledge.

Increased Product of Corn from Marling. By EDMUND HARRISON. [From the Virginia Farmers' Register.]

MR. EDITOR:—The field on Aberdeen which came in course last year has a slip of land from north to south, about one hundred and fifty yards wide, left unmarled in the spring of 1828, when the land on each side of it had been marled the fall and winter before; and after the crop of corn, the marled sides of the slip were sown in wheat, and the slip left unsown. Last spring, the same field was laid off four and a half feet one way, and four feet the other, for corn; and about the 20th of December, I commenced gathering in that part of the field. I counted in a square six hundred hills of corn east of the slip, on the marled land, and it produced five bushels and a peck, equal to twenty-one bushels per acre. On a line, as I judged, exactly west from it, in the middle of the slip, I counted in a square the same number of hills of corn, and it produced one bushel and something less than two pecks, but say six bushels per acre. Still, in the same line west, but on the marled land, the same number of corn hills in a square yielded five bushels, equal to twenty bushels per acre. For your farther information, I think it is proper I should add, that, before the marling in 1828, the above named three squares, counted by the corn hills, were, to the best of my judgment, of equal quality, and that no manure has ever been spread on either of them; and perhaps the difference in produce would have been greater, had the marled land, as the slip was, been left also unsown. The same course was pursued last fall—the marled land sown, and the slip unsown. I have driven down locust stakes on the corners of each square, and you have the means of being informed in 1836, when the same field will be again in corn, what is the difference in produce. I assure you it will afford me great pleasure to inform you of the result.

Aberdeen, Va.

Harvest Management. By AGRICULTOR. [From the Virginia Farmers' Register.]

MR. EDITOR:—The interesting season is approaching when, if ever, the following hints on the management of the wheat harvest will be useful. They are furnished rather in compliance with your wish than from any confidence I have in their merit. Your partiality has caused you to form expectations, which are not, I fear, destined to be realized. There are sources whence you may derive much and valuable information on this subject, and on another equally important, the management of wheat fallows. I refer to my friends of Shirley and Westover, with whose distinguished success in the culture of the wheat crop you are not unacquainted. Communications from them on these subjects would, I venture to affirm, be among the most important with which the pages of the Register could be enriched. To myself, individually, they would be fraught with interest.

To get ready previously to commencing harvest, is the first and fundamental rule. It should be borne in mind that, in this critical operation, as much may sometimes be done in one or two good days as in a whole unfavorable week, independently of the injury sustained by the grain. Abundant and timely preparation should, therefore, be made; a supply of meal laid in, extra implements, timber fashioned out for prompt use, &c. provided. In fine, every thing that can should be done, to prevent interruption. When many laborers are engaged, and at a distance from the work-shop, as is often the case in Virginia, a carpenter should follow the reapers with tools, timber, and grindstone, so as to afford, in fact, an ambulatory shop. When not employed grinding the scythes and making repairs, he may be with the shockers. Food and water should be hauled in a cart, by which some labor may be saved. For the latter, barrels should be provided, with an aperture in the upper side, and a flap of stout leather over it, to prevent the water from splashing out. One of these should always be convenient to the hands, to whom the water may be carried without their leaving the ranks.

The next rule is to commence as early as possible. This may be done when the straw is dry a short distance below the head, if the weather be fine. Do not wait for large bodies of wheat, but begin with those spots that ripen first. Let the reapers be an hour or two in advance of the binders, and set the sheaves in stooks till fit to be shocked. If left on the ground as it is discharged from the cradle, exposed to our scorching sun, the straw is too suddenly dried up, and the grain denied the nourishment necessary to its perfection. The skin of wheat cut thus early is thin and bright, though some persons think the practice more advantageous to the miller than the farmer; and it would perhaps be so, could there be a guarantee against rain, by which both too frequently suffer. It is certainly better to cut wheat rather green, when properly managed, than to cut it wet, which persons are not unfrequently obliged to do in a protracted harvest. Light wheat, too, may be cut with more expedition and less waste when the stem is somewhat succulent, than when dry and brittle, as it becomes at the end of a long harvest.

Cut that portion of the wheat first, of which you can secure most. It should never be cut when too wet to be tied in sheaves, and soon shocked. Wheat cannot possibly be in so good a situation to dry rapidly as when standing erect in the field. Much more has been lost in our warm climate by its sprouting in the sheaf and shock, than from exposure when standing in the open field. At a juncture so busy, despatch should be the farmer's watch-word. Every hand should be turned out, who can render the least service; the old as shockers, the very young as sheaf carriers,—without, however, exacting too much from either.

My cradles are now all constructed on the same scale, adapted to blades fifty inches in length. Most of my implements, indeed, are made on this principle, so that the sound parts of one may fit when transferred to another. The reap-hook is never used. In wheat which is too much tangled for the cradle, the naked blade is employed. Each binder is furnished with a small rake, having a handle two and a half feet long, with which he hastily gathers as much wheat as he can, to diminish the quantity left on the ground. A horse rake follows as speedily as possible, and the loose wheat thus collected is either put in small cocks, or, which is greatly preferable, hauled in at once, and housed or stacked. A friend in Berkley county informed me that a German had introduced there a better method of gleaning fields than by the help of a horse, the rake being so constructed as to be drawn by a man, with a strap around the body. I have written to ask a more particular description, and will furnish you a copy when I receive it.

Never, during harvest, open damaged shocks, unless the weather be good, and then not too many at a time. After harvest, there should be an immediate and general inspection. I have found it convenient to set the shocks straight one way, but in the middle of the cutting the other, to save distance in carrying the sheaves. The shocks should be of an oval form, nicely balanced to prevent their leaning, with a high and sharp apex, well capped. In order to bring them to a proper point, some very small sheaves must be made.

Harvest, though a period of intense labor, is nevertheless, in Virginia, a sort of negro festival. It is pleasing to witness the merry faces on such occasions. I think the usual allowance of ardent spirits a wholesome corrective of the vast quantity of water rendered necessary by the heat and exercise. But be that as it may, I should be loath to abridge the enjoyment of the poor creatures, by making them members, by compulsion, of the temperance society. To those who prefer it, an equivalent of molasses may be given.

I will not close this article without first offering a fervent wish for your success, and that of the great cause with which you have identified yourself.

May 29, 1833.

PRODUCT OF A TEMPERANCE FARM.—*Mr. Fessenden:* If you think the following statements will in any measure "provoke to good works," you may give them a place in your valuable paper; by so doing you will gratify the feelings of my friends, who delight to see the cause of temperance and good husbandry prosper. I know that what would be called high cultivation in the county of Worcester, would be esteemed but indifferent in another place, very near the metropolis. If I may be said to have done well, I presume many others have done better.

My farm is a stiff clayey soil, rocky, uneven, hills and valleys, particularly adapted to the growth of fruit trees, such as Pears, Apples, Peaches and Cherries, of which I have about 200 thrifty trees of the choicest varieties, most of them in a bearing state, besides mulberries, quinces, grapes, &c. It contains 160 acres, 20 of wood, the remainder mowing, tillage, and pasture land, all in one body, with the great mail road from Boston to Washington running through the centre. I get my living by farming, and keep my eye steadily on the profits of my farm, which must exclude every thing like overwrought agriculture, or extravagance, from the premises. From my youth up I have been trained a farmer, and "according to the custom of the country," was early initiated into the sublime mysteries of the sparkling cup. I do not know that I was ever taught that it was the handmaid of religion, yet I thought that Bacchus must be the constant companion of honor and good breeding, and in fact felt ashamed to be without him any where. In agriculture he was my foreman; I scarcely dared to commence a day's work without consulting him. After employing him many years, I began to think that he did not do quite so well as formerly—indeed, I began to be suspicious that he never had done quite so well as I had been made to believe. Some time before this he had been guilty of breaking the peace, and knocked down a great many good likely men in the streets; and in many instances taken away all their money. And what was much worse, he would often belabor them till he destroyed their senses, and carried poverty, shame, and distress, and death, and hell (if I may so speak), into many families, who, had it not been for him, might have been prosperous and happy. One Dr. Beecher* advertised him; I bought the advertisements, and found the villain fully described, and people warned against employing him. I found he became turbulent and difficult

* Dr. Beecher's Temperance Sermons.

to govern: indeed, sometimes it seemed as though he would be my master, let me do my best. He was very unreasonable in his demands, and when I paid him great wages, he was not satisfied: would say "It is not enough, give, give." At length I said to him, "Get behind me, Satan," and drove him from my farm. And I have not employed him since, except in sickness, and then he is a dangerous fellow. If you employ him any considerable length of time, he will be getting up into your garret, and doing mischief, if you don't look out pretty sharp. My neighbors all said I was unwise to dismiss him. Say they—You cannot hire help to carry on so large a farm, do so much hard work, and get so much hay, without rum. But, as I was a Yankee, I ventured to *guess* that I could. At that time I did not know of a farm in the world which was carried on without the help of ardent spirits. This was termed a new measure, and in fact, it was new in those days, but it had been an old measure in days of yore. It is now too late in the day to tell what the result of these "wild, rash, new measures" was, for every one has become familiar with the effects of temperance on labor.

When I concluded to dispense with rum on my farm, I thought it likely that I should use more cider than before, but in this I was mistaken; for, after a short time, we began to use less, till it has almost entirely gone out of use by common consent, though I make a good supply of the first quality, and have a plenty of it on hand. Of course, you will see that I am right in calling my farm a *Temperance Farm*.

The following items may not all be perfectly correct, but are so nearly so as to answer my design, and give a sum total varying but little from the truth. I would remark, that in consequence of sickness in my family last summer, and other causes, my dairy did not receive that attention, and was not nearly so productive as it otherwise would have been.

Dairy.—Most of my butter was sold in Boston, by Col. Maynard, and brought from 17 to 28 cents per lb. About 350 lbs., the most sold at any one time, brought 24 cts. We will call the whole 22 cents per lb.

Butter, 3487 lbs. at 22 cts.	$767,14
New Milk Cheese, 1575 lbs. at 9 cts. - -	141,75
Cheese, 735 lbs. 4½ cts.	33,07½
Do. 1526 lbs. 3 cts.	45,78
Veal, and 4 Calves that were raised, - -	151,47
Total of Dairy,	$1139,21½

Beef.—I fatted 9 cows, and 1 ox that weighed 1005 lbs. One bull, 6 years old, which I raised on skimmed milk, and with his mate, a stag, did most of the ox work on my farm for four years. He had 85 lbs. rough tallow, and weighed 1209 lbs. The ox, bull, and 9 cows, amounted to $308,36. Four oxen were sold by Col. Fay, at Brighton, to G. Adams, for 39s. per cwt. The whole amount for beef was $603,41.

Pork.—I fatted 19 hogs, which I bought of Theodore Smith, that he drove to Columbia county, N. Y. Their average weight, when I bought them, was 86 lbs. I kept them through the winter on English turnips, boiled, with a little, and but a little, corn and cob meal put with it. When slaughtered, 14 of the best averaged a fraction over 500 lbs. each, 15 of them were carried to Boston, and sold for 7½ cts. The hogs amounted to $651,82.

Total of Dairy, Beef, and Pork, $2394,47½.

The above is the produce of one year, commencing March 25, 1832, and ending March 25, 1833. SAMUEL CHAMBERLAIN.

Westborough, 1833.

P. S.—Since writing the above, I see by reference to dates that I was a little mistaken about the time of reading Dr. Beecher's Temperance Sermons. I commenced my temperance movements in 1827, and his sermons were published in 1828. I well recollect how refreshing it was to me to read this little volume. I sent immediately to Boston for half a dozen of the volumes, and circulated them as fast as I could; and it gives me pleasure now to think that I then did some good by example as well as precept in so good a cause. Excuse any thing that may look like egotism. My only apology is, that I thought it not best to spoil a good story for want of a little of that article.—[New-England Farmer.]

SOUTH HANOVER COLLEGE.—This is a Manual Labor School, where the industrious student may defray, by his own hands, the expenses of his education. It comprises a Literary and Theological Department, in which all the ordinary branches of language, science and divinity are taught. It numbers at this time a President and five Professors, and ninety-five Students. In 1827 this institution commenced its operations in a log-cabin, 16 feet by 18 feet, with six students, under the care of Rev. John F. Crow, who is properly the originator of the whole plan. It now has several buildings for accommodating students, the largest 40 by 100 feet, and three stories high, with a good farm and suitable workshops.—[Ohio Standard.]

STATISTICS OF TENNESSEE VALLEY.—A writer on its productions and trade, in No. 3, published in the Florence Gazette, estimated the present exports of cotton at $2,500,000 He says,—For the cotton thus sent out, its equivalent value is received in imports, consisting of goods, flour, bacon, iron, salt, horses, negroes, or cash, which is vested in some one of these things, or in lands. We have no means of arriving at the amount imported, of what is termed "Ohio and Kentucky produce," but it is known to be considerable. Cotton planters are extensive consumers, because they cultivate cotton almost exclusively, and rely upon the farming and manufacturing states for the necessary supplies of food and clothing.

Imported goods consumed yearly are valued at $1,388,524. Let us suppose that $1,500,000 of the proceeds of the cotton is annually received in imports consumed in the country, there would still be a "balance in trade" in favor of $983,835.

Recapitulation—

Cotton exported - -	$2,483,835
Imports - - - - -	1,500,000
	$983,835

So that about one million is added annually to the wealth of merchants, planters, &c. in the Tennessee Valley. The writer is next to inquire into the causes by which a people so productive should nevertheless be in debt. The main cause, we suspect, is near and clear, exempt from all mystery.

Lansingburgh, July, 1833.

BEE-HOUSE.—We have seen a bee-house, the method of constructing which was introduced into our county by Mr. Eber Wilcox, of Solon, and which is said to be a very valuable improvement. Several individuals have tried it with entire success. It consists of a house of brick or wood, (if of wood, standing on stakes,) say of the size of a common smoke-house, with a door to admit of the entrance of a man. The inside is merely furnished with shelves like an ordinary pantry. The bees pass in and out through several apertures resembling spouts, arranged in rows on each side. These spouts project six inches, and the hole is perhaps two or three inches wide, by from one eighth to one half an inch in height. The benefits of this method are said to be these: The bees never swarm, but continue filling up the house; the honey may be easily taken out, when the bees retire to the bottom of the combs in cold weather; and it is said to be an infallible preventive to the worms, and the light fingers of the night gentry.—[Cortland Advocate.]

INDIAN SCHOOLS IN CANADA.—Several British gentlemen have been very active in establishing schools among the Indians on Red River, in Upper Canada.

One of the teachers, a Mr. Smith, has under his care 17 boys and 6 girls, from different tribes. The boys labor on a farm part of the time. They work cheerfully, and many of them are represented as being regular and cleanly in their habits and appearance. Their progress is encouraging, and they are not more inclined to vice than boys in general of their age.

There is also a school of industry established, embracing 46 scholars. They are, to a very considerable extent, employed in spinning. The school is gradually increasing. They have, also, Sunday schools, but these are not represented as very flourishing.

ROOT CROPS.—An acre of Indian corn which yields sixty bushels will be ample for the support of a horse through the year. Now it is for the farmer to consider, whether it be better to maintain his horse upon the produce of half an acre of carrots, which can be cultivated at an expense not greatly exceeding the expense of half an acre of potatoes, or upon half an acre of ruta baga, which can be raised as a second crop at a less expense than potatoes, or upon the grain produce of an acre of Indian corn, or, on the other hand, upon the produce of six acres in hay and grain; for six acres will hardly do more than yield nearly six tons of hay and seventy-eight bushels of oats. The same economy might be as successfully introduced into the feeding of our neat cattle. I have known a yoke of oxen, engaged in the ordinary labor of a farm, to be kept three months in winter in good working condition upon one bushel of Indian meal and about twenty-five cents worth of straw per week; and my own team has never been in better condition both for appearance and labor than when fed wholly upon a liberal supply of ruta baga and the coarsest fodder. But it has been ascertained by accurate measurement that an unworked ox, put upon good old hay, consumed at the rate of thirty-three pounds per day, or two hundred and thirty-one pounds per week, which is upwards of six tons per year of two thousand pounds to the ton. There must then be a great saving between feeding in the way referred to or upon English hay; and English hay alone in any quantity, without grain or vegetables, is not sufficient for any hard working animal.

FROM LIBERIA.—We are indebted to Mr. Williams, Lt. Governor, and Mr. Rogers, high sheriff of Liberia, who arrived in the ship Jupiter from Liberia, for the following interesting account:—The Colony, at the time they left, contained upwards of 3000 inhabitants, and 250 dwelling houses, 5 churches and meeting houses, viz. Episcopalians, Presbyterians, Methodists, and Moravians, an Academy, and several schools.—The colony is governed by a governor appointed by the Board of Managers at Washington, a Lieut. Governor, and two Councillors, elected by the people once in each year. The people were contented and happy. It is gratifying to state, that there are only two persons in the whole population who are intemperate. Wheat and Rye have not yet been tried sufficiently to test the quality of the growth. Indian corn grows well, but lessens in size both in ear and stalk. Almost all the vegetables of this country flourish well there. They have one schooner of 60 tons, 1 of 40, and 5 of 6 tons, belonging to the place, and will soon build others. The natives in the interior have lately been very quiet. The staples of the country are rice, which is plenty and good; cotton, which is spontaneous, long, and of fine texture—a person from the south has undertaken to bring it to more perfection. Messrs. Williams and Rogers will proceed to Washington immediately, to confer with the Board of Managers on the propriety of allowing the colonists to choose all their officers, and to make such other alterations in their constitution as are considered necessary. The place was very healthy.—[Mer. & Adv.]

Clouds of *locusts* have lately made their appearance in Arkansas. In the forests, their course is marked by the wilted and sallow leaves of the young and tender branches which have been perforated by them for the deposit of their eggs.

Fig. 1

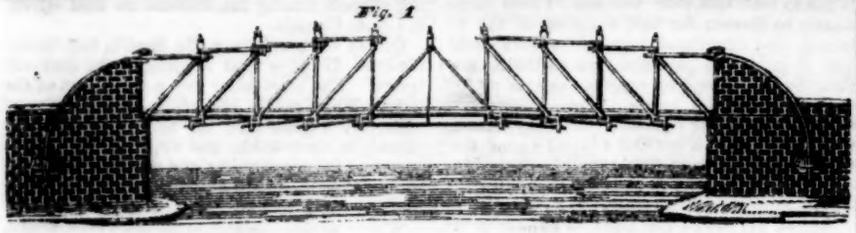


Fig. 2

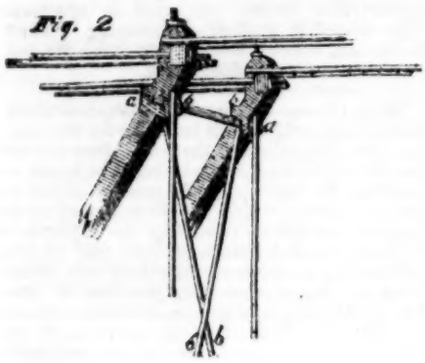


Fig. 3

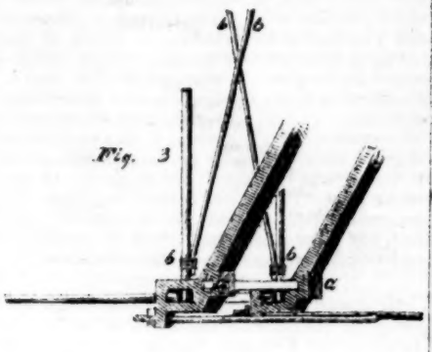
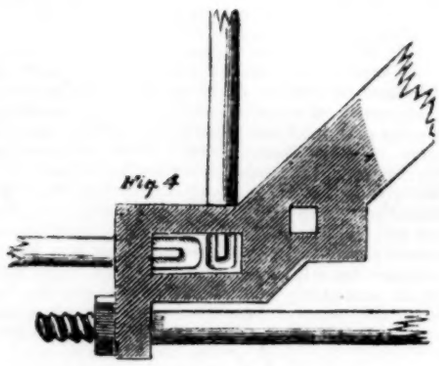


Fig. 4



Mr. A. Canfield's Description of his Iron Tension Bridge. [Communicated by the Inventor for the Mechanics' Magazine.]

Fig. 1 is a projection or side view of the bridge. Figs. 2 and 3, parts of one frame in perspective. Fig. 4, projection of the foot of the brace.

The upper horizontal pieces are called the upper strings. The lower horizontal pieces the lower strings. The upright pieces the posts. All these may be either chains or bars. The oblique pieces are the braces. On each side of the road-way the frame is double, that is, it has a double set of braces, &c. in order to have a wider base at the abutment.

The bars connecting the braces are the cross-bars, see *a a a a*, Figs. 2 and 3. The pieces running from the ends of the upper cross-bars to the lower end of the post on the opposite side of the frame are called the lateral braces, see *b b b b*, Figs. 2 and 3. The upper strings are double, and pass round the head of the first brace, and are secured with screws and nuts at the head of the second brace. The pieces are supposed to be numbered 1, 2, 3, &c. from the abutments.

The first upper strings are firmly attached to the abutment and to the head of the first brace. To the head of the first brace the first post is attached, and also the second upper string. To the foot of the first post is keyed the second brace. The head of the second brace is sustained by the second upper strings, running from the head of the first brace. The foot of the second brace is prevented from moving horizontally by the second lower strings, so that when the span is complete the upper strings are acted on by a direct tension from the abutment, and the lower strings by a tension from the middle of the span. The floor, of either iron or wood, to be supported by the lower cross-bars.

The upper strings, from the head of the centre braces to the next brace on each side, may be left out, as there can be no stress on them; and also the lower strings, from the abutment to the foot of the second brace. This leaves all the iron at liberty to contract and expand without the least strain on any part. It is proposed to connect the parts last referred to by a spiral spring, that will yield an inch or two, with a tension of one or two tons.

You will observe that there can be not the slightest vertical motion in the bridge without an absolute *stretching* of the iron. In addition to the lateral braces in the frames, all the lateral bracing may be put in as in any other construction; and to give it any longitudinal movement, the frames of one half the span must be actually *raised up*, turning on the head of the first brace as a centre.

In estimating the strength, and also the stress from the weight of the bridge, I refer to only one side, or one half the span. Of all the results that I have seen, of experiments on the strength of iron, the lowest is 25 tons as the strength of a bar an inch square. Emerson says "34 tons may be safely suspended on a rod of iron an inch square." I suppose it will sustain 25 tons; and suppose a bridge of 80 feet span, or ten braces, each extending over eight feet, and that the upper strings at the abutment are *two* inches in the section, (a little less than one and a half inch round iron,) each string then will sustain twice 25, equal to 50 tons. But as the stress is on four of them, (that is, two on each side of the road-way,) the strength of the first braces will be 50 tons, multiplied by 4, equal to 200 tons; the second brace will sustain one half of this, equal to 100 tons; the third brace one-third, equal to 66·6 tons; the fourth brace one-fourth, equal to 50 tons.

This (fourth brace) is the point of greatest stress, for the centre has its support on each side.

To estimate the stress on the abutment, suppose B A to be the upper string, A C the brace, W a weight suspended at A. Now, as the brace is at an angle of 45 degrees, the weight W causes a *horizontal* pressure at C, exactly equal to the tension on B A. Suppose now 50 tons on the fourth brace, or at the centre of the bridge, the tension on the B A, or the first brace, will be 200 tons. The horizontal pressure at C is the same. Then, the power acting to turn the abutment on the point D is the difference of the products of 200 tons multiplied into D B, and 200 tons into D C. B C is 8 feet. Suppose D C to be 16 feet, or two-thirds of B D: then 200 tons, minus two-thirds of 200 tons, gives 66·8 tons for the stress on the abutment. This acts with a leverage of 24 feet.

I have here taken the extreme weight, which is of course many times greater than would ever be put on the bridge. The stress at the abutment from the weight of two frames, without the floor, is 7 1-9 tons. On a pier the pressure would be vertical only.

The cost of three frames, (that is, of a bridge with two road-ways,) would be $2,362. This is a matter of certain and simple calculation, by reducing the contents to cubic inches and pounds.

In making this estimate I take the first brace 4 inches square; the upper strings (double) and 2 inches in the section, and all the parts diminishing in a much less ratio than the stress upon them. All the parts diminish towards the centre excepting the lower strings. The stress upon them being greatest at the centre of the span.

The braces (of cast iron) weigh 23,224 pounds. The other parts of wrought iron weigh 15,013 pounds. The castings can be obtained at 5 cents the pound, and the wrought iron at 8 cents.

In this construction the iron acts only in the direction in which it has the *greatest* strength, viz. a direct tension or a direct thrust, there being not the slightest lateral strain. The stress upon each part from any given weight is a matter of simple calculation. Each piece may be proved before it is used. The contraction and expansion are effectually provided for, and it appears to possess every requisite in a bridge.

AUG. CANFIELD.

Paterson, N. J., June 12, 1832.

Co-operative Laborers.—Many of our readers are no doubt aware that some well-intentioned men have been endeavoring for a long time to effect a great change in society, by establishing a new arrangement, called Co-operation, which assumes that the laborers should be at the same time the capitalists. There can be no sort of objection to this principle, when it is proposed to carry it into action without any prejudice to the existing laws of property; and, no doubt, many of the evils of our social state might be removed, were all persons concerned in the business of production to have a sort of proprietary interest in the commodities produced. The mistake of those who exclusively call themselves co-operatives, is that of assuming that the love of individual property can be got rid of by a very short process of reasoning, and neglecting to avail themselves of the many *practical* modes in which industry might be made more productive than at present, by a union of forces, in which the personal interests of every laborer would be dependent upon the success of the business in which he is engaged. There are many examples of such real co-operation already existing in the world, some of which we may mention, from time to time. We shall now state a few facts regarding the mode of navigating vessels in the Mediterranean, by men having a common proprietorship.

With the exception of some large ships that belong to wealthy merchants of Hydra, Spezzia, &c., chiefly employed in the corn trade in the Black Sea, nearly all the Greek vessels are navigated by men taking fixed shares of the profits or freights obtained. The captain has more shares than the common men, and so has the second in command, who is generally intrusted with the *contabiliti* or accounts. When the vessel is small and the voyage short, it is sometimes the custom for each individual to lay in his own wine and provisions: but the general practice is for the captain or the second to purchase a stock for the whole, the amount of which is put on the debtor side of the account, and at the end of the voyage subtracted from the gains made: the distribution being fairly conducted during the voyage. The same system is found nearly all over the Mediterranean. The Neapolitans, the Sicilians, and the Genoese, rarely navigate in any other way.

The Italian captain has sometimes a share in the vessel, which proportionately increases his share in the profits. He is occasionally, though rarely, except when the craft is very small, the sole proprietor; but even in the latter case the men are engaged just in the same way. A small vessel called a "Bovo," or a "Paranza," of not more than sixty tons, not worth £150, is often held by as many as six or ten different proprietors.

From the town of La Torre dell' Annunziata, in the Bay of Naples, there is a coral fishery carried on. They sometimes fish about Sardinia, but the great place is on the coast of Africa, near Bona. They leave Naples in little fleets of four, six, or eight, open boats, and availing themselves of the fine summer season, venture right across the Mediterranean. These boats are navigated on the same principle. Sometimes the boat is the united property of the men in it, who give one of their number a larger share of the profit on account of his superior nautical skill or experience in the fishery. The abstemious manner in which these Mediterranean sailors, (Italians, Greeks, Sclavonians, Spaniards, Provençales, and all,) live is astonishing. Bread, *legumes*, olives, salt-fish, a little maccaroni, are their sole support. They scarcely ever taste meat.

A large portion of the shore boats that ply about the harbor at Smyrna are manned by Sclavonians, from about the Bocca di Cattaro, and by our subjects the Maltese. On an average each boat has two men; to them the boat belongs, and they divide their profits every evening. When an old boat is to be repaired, or a new one bought, the two partners club together; or sometimes, in the case of the purchase of a new boat, a third party is admitted, who receives a given share of what the boat makes.

In the Italian ships such of the sailors as have a little money are allowed to invest it in goods, and to carry these goods with them, disposing of them as they choose at the ports they touch at or are bound to. This is called the "*Paccotiglia*." Intelligent and prudent sailors often make more money this way than by their shares in freight.

Those who have attended to this system state that the sailors are deficient in discipline; but they also observe that, in proportion as the men are of a steady and intelligent character, this evil vanishes. It is no doubt true that *mutual* interests can only be properly understood by men far advanced in civilization. Ignorance is always selfish.

Largest Tree in the World.—The boabab or monkey-bread (*Adansonia digitata*) is the most gigantic tree hitherto discovered. The trunk, though frequently eighty feet in circumference, rarely exceeds twelve or fifteen feet in height; but on the summit of this huge pillar is placed a majestic head of innumerable branches fifty or sixty feet long, each resembling an enormous tree, densely clothed with beautiful green leaves. While the central branches are erect, the lowest series extend in a horizontal direction, often touching the ground at their extremity; so that the whole forms a splendid arch of foliage, more like the fragment of a forest than a single tree. The grateful shade of this superb canopy is a favorite retreat of birds and monkeys; the natives resort to it for repose, and the weary traveller in a burning climate gladly flies to it for shelter. The leaves are quinate, smooth, resembling in general form those of the horse-chesnut. The flowers are white and very beautiful, eighteen inches in circumference. The fruit, which hangs in a pendant manner, is a woody ground-like capsule, with a downy surface, about nine inches in length and four in thickness, containing numerous cells, in which brown kidney-shaped seed are embedded in a pulpy acid substance. The timber is soft and spongy, and we are not aware that it is used for any economical purpose. It is very easily perforated, so that, according to Bruce, the bees in Abyssinia construct their nests within it, and the honey thus obtained, being supposed to have acquired a superior flavor, is esteemed in preference to any other. A more remarkable excavation is however made by the natives; diseased portions of the trunk are hollowed out and converted into tombs for the reception of the bodies of such individuals as, by the laws or customs of the country, are denied the usual rites of interment. The bodies thus suspended within the cavity, and without any preparation or embalmment, dry into well preserved mummies. The juicy acid pulp is eaten by the natives, and is considered beneficial in fevers and other diseases on account of its cooling properties. The duration of the boabab is not the least extraordinary part of its history, and has given rise to much speculation. In it we unquestionably see the most ancient living specimens of vegetation. 'It is,' says the illustrious Humboldt, 'the oldest organic monument of our planet;' and Adanson calculates that trees now alive have weathered the storms of five thousand years.—[Edinburgh Cabinet Library. No. XII.—Nubia and Abyssinia.]

[*From the Hampden Journal, Springfield, Mass.*]

"Valuable Turtle."—In the year 1816, Mr. Jonathan Worthington, of West Springfield, found a Turtle upon his premises which had "J. W. 1717" marked—evidently cut with a penknife—upon the under shell. The Turtle was set at liberty, after examination, and again found in 1823; again in 1828; again in 1829; and a few days since in 1833. The father, grandfather, and great grandfather, had the same given name, with the present *Jonathan* Worthington, who thinks that the great grandfather marked the turtle. The turtle is of the species commonly called the "Box Turtle," having the upper shell very crowning, and the lower shell, flat with a joint in the centre. The "venerable" gentleman, if the date is correct, must of course be upwards of 116 years old, and is said to be as active as any of the young fry of the same species which is generally to be met with.

"What's all the best on't," the farm upon which the present Mr. Worthington lives, has been in the possession of the four several *Jonathans*, and the "venerable" has always been found within a few rods of the same spot; which indicates that, whatever may have been his observations for the last century, his travels have not been very extensive.—The circumstance is somewhat singular, and is our motive for noticing it.

To those who are not aware of the longevity of the turtle it may be well to give an extract from "White's Natural History of Selborne," in which are some interesting facts in relation to the Tortoise. Among others, to show its strength, it is stated that a common sized turtle would move with ease with a weight of 18 stone on its back, and that a cart wheel passing over the turtle gives it no apparent pain. In relation to the longevity of this "creeping thing" the following extract is from the work abovementioned:

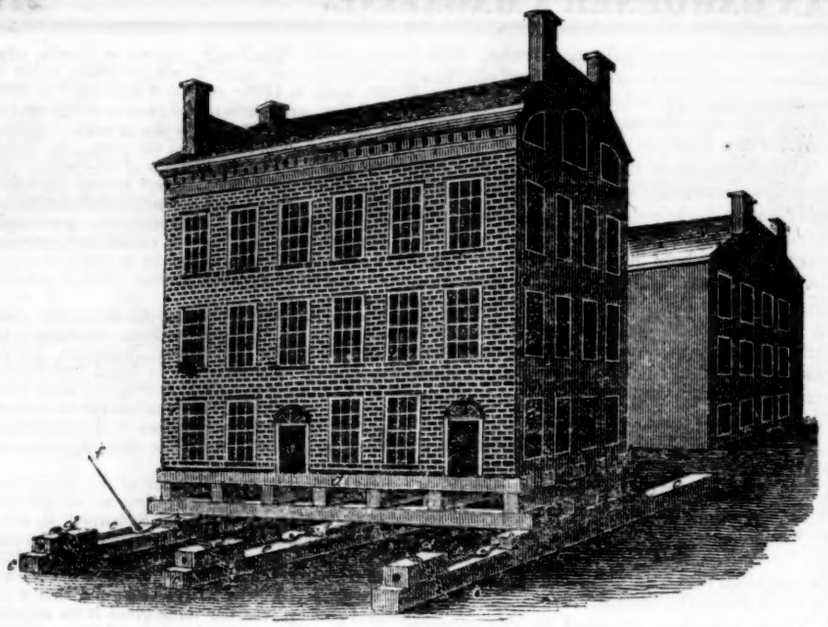
"From a document belonging to the archives of the Cathedral, called the *Bishop's Barn*, it is well ascertained that the tortoise at Peterborough must have been about 220 years old. Bishop Marsh's predecessors in the see of Peterborough had remembered it above sixty years, and could recognize no visible change. He was the seventh bishop who had worn the mitre during its sojourn there. If I mistake not, its sustenance and abode were provided for in this document. Its shell was perforated, in order to attach it to a tree, &c. to limit its ravages among the strawberry borders."

Snow Shoes.—"They are about three feet long, and a foot wide in the broadest part. Little sticks placed across at 5 or 6 inches from each end, serve to stregthen them. A net-work of twisted deer-skin, cut into strips, is fastened to the frame, and to this the foot is confined by means of strings of the same material. The snow-shoe used for travelling over a hilly country is turned up at the end, and pointed. To walk well upon these long and broad bottoms requires as much practice as it does to navigate a canoe. The knees must be turned a little inward, and the legs kept wide asunder, and the strain of the strings is such that a white man never puts them on to wear for a day without suffering what is called the 'snow-shoe evil.' An Indian will travel with them forty miles a day and sometimes more."

The Dog-train.—It is a light frame of wood, covered round with a dressed skin. The part in which the feet go are lined with furs, and is covered in like the forepart of a shoe. The bottom is of plank, about half an inch thick, and some inches longer than the train, and an inch or two wider. In this carriage a woman may sit quite comfortably, and can take a child in her arms, while her driver standing on the part of the frame which runs out behind, gives the word to his dogs. These, when well trained, will trot off 40 miles a day over the snow crust.—[Thatcher's Indian Traits.]

India Rubber Table Cloths.—We have recently seen, and have in our possession, a sample of a new and superior kind of covers for tables and stands. They are manufactured by Samuel Steele & Co, Woodbury, Ct. They are composed of cotton, with a composition of India rubber, &c. varnished and bronzed in an elegant manner. They cost but little more than the common oil cloth, and are much superior both for beauty and durability. One very important quality which they possess over any oil covers, is their elasticity, as they can be doubled in every possible manner, without breaking or injuring the composition of which they are made.—[Danbury Her.]

"The contract for the bridge over the Potomac has at last been signed by the Secretary of the Treasury on the part of the government. It binds the contractors to make the bridge for $1,150,000, equal to about one third of the sum which I have estimated it will cost. The contractors are of Pennsylvania."—[Jour. of Com.]



Mr. Simeon Brown's Method of moving Brick Buildings. [Communicated by the Inventor for the Mechanics' Magazine.]

REFERENCES—*a a*, timbers placed in different directions, according to the construction of the building, so that it may be perfectly secure; *b b b*, the slides; *c c c*, the ways, on which the slides move; *d d d*, the pumps, (so named,) secured by chains to the ways, *c c c*, and containing the female screws, which are each provided with a shoulder, pressing against the end of the pump; *c e e*, the propelling screws, which are severally acted upon by a lever, *f*.

MR. SIMEON BROWN, Eastern Hall, Manhattan Island, has, by the simple apparatus as shown in the engraving, removed several brick houses, varying from one to three stories high. As we know that many people are quite incredulous on this subject, we subjoin a list of some few tenements that have been moved by Mr. B. in this city.

The first *brick* house Mr. Brown moved was situated at 85 Maiden lane; it is three stories high, and the size is 55 feet by 22. A short time afterwards he lowered Richmond Hill Theatre, a brick building, the wall 8 inches thick, size 50 feet by 42, and moved it a distance of 68 feet. Shortly afterwards seven brick houses, at one time and by one set of apparatus, in Monroe street, each 24 feet by 40; the numbers of the houses are 118, 120, 122, 124, 126, 128, and 130. Then nine brick houses, 25 feet by 40, situated in Avenue D, all raised 5 feet 2 inches, by one operation; and a three story brick house, 58 feet by 25, in Monroe street. The Church now situated in Sixth street, Greenwich Village, he moved a distance of 1,100 feet, with the steeple, clock, pews, and all fixtures; no damage was done, not even so much as breaking a square of glass in either of the windows.

Mr. Brown informs us that, during the last 12 years, he has moved about 900 buildings, 400 of which had brick fronts, and about 40 were entire brick buildings.

The following description of the operation Mr. Brown has handed us for insertion: it is from the fertile pen of Capt. Basil Hall, and is in every particular correct.

"Every one has heard of moving wooden houses; but the transportation of a brick dwelling is an exploit of a different nature. I shall describe simply what I saw, and then tell how the details were managed. In a street which required to be widened, there stood two houses much in the way, their front being twelve feet too far forward. These houses, therefore, must either have been taken down, or shifted back. Mr. Brown undertook to execute the less destructive process. They were both of brick, and built together, one being forty feet deep, and twenty-five feet front; the other thirty-two feet deep, and twenty-two feet front. They were of the same height, that is to say, twenty-two feet from the ground to the eaves, above which stood the roof and two large stacks of brick chimneys; the whole formed a solid block of building, having two rows of six windows each, along a front of forty-seven feet by twenty-two. This was actually moved in a compact body, without injury, twelve feet back from the street. I watched the progress of the preparations on the 25th of May with great interest; but unfortunately, just as the men were proceeding to the actual business of moving the screws, I was obliged to run off to keep an appointment with the Mayor and Corporation; and when I came back, three or four hours afterwards, the workmen had gone away, after moving the building thirty inches—which fact I ascertained by measurements of my own. On the next day, with equal perversity of fate, I was again called off to join a party going to New-Jersey; and on my return two days afterwards, I had the mortification to find the work completed. The houses were now exactly nine feet and a half from the position in which I had left them a few days before.

"It would be tedious, perhaps, were I to give a very minute description of the whole process; but it is so simple, that it may, with a little attention, be understood in a general way even by persons not much accustomed to such subjects, and may possibly be useful to those who are familiar with them.

"The first object is to place a set of strong timbers under the house, parallel to, and level with the street, at the distance of three feet apart, extending from end to end of the buildings, and projecting outwards several feet beyond the gable end walls. The extremities of these timbers are next made to rest upon blocks of wood, placed on the ground quite clear of the walls on the outside. Then by means of wedges driven between the timbers and the blocks, they are made to sustain a great part of the weight of the ends of the house. When this is done, the foundation of the end walls may be removed without danger, as they now rest exclusively on the timbers, the ends of which, as I have described, lie on solid blocks.

"I shall describe presently how the above operation of inserting the timbers is performed; but if for the present we suppose it done, and the house resting on a sort of frame-work, it is easy to conceive that a set of slides, or what are called in dock-yards, ways, on which ships are launched, may be placed transversely under these timbers, that is, at right angles to them, so as to occupy the very place where the foundations of the end walls once stood. It is necessary to interpose between these ways or fixed slides, and the aforesaid timbers, a set of cradles, similar in their purpose to the apparatus of the same name on which ships rest when launched, to which final process of ship-building, by-the-bye, this whole operation bears a close analogy. These cradles are long smooth beams lying along the top of the ways, and in the same line with them; their under surfaces in contact with the ways, and the upper made to bear against the cross timbers which support the house. The object, at this stage of the business, is to bring the whole weight of the house upon these cradles, and, consequently, upon the ways which support them. If this be done, it follows that the ends of the timbers, formerly described as resting on the blocks, will no longer be supported at the same places. This change of the point of support is effected by driving in wedges between the timbers and the cradles; and it will readily be seen that these wedges have the two-fold effect of forcing the cradles down upon the ways, and at the same time of raising up the timbers which support the house, and consequently, in a very small degree, the house itself. The ends of the timbers now rest no longer on the blocks, which are removed, and the house, supported upon the cradles and the ways, is ready for being moved, as soon as the front and back walls have been taken away.

"Suppose all this done, there is nothing required but to apply screws, placed horizontally in the street, and butting against the cradles. On these being made to act simultaneously, the cradles, and consequently the frame which they support, together with the house on its back, move along.

"Such is a general account of the process. I shall now mention how the various difficulties, most of which I dare say will have suggested themselves in the foregoing account, are overcome in practice.

"The horizontal supporting timbers, already described as being placed parallel to the street, and nearly at the same level with it, are introduced one by one in this way. A hole is blocked out in each of the end walls, just above the ground, and large enough to admit a squared beam, say fifteen inches each way, of which the ends project beyond the gable walls about a couple of feet. A firm block of wood is then placed under each of these ends, and wedges being driven underneath, the beam is raised up, and made to bear against the upper parts of

the holes. Thus the inserted timber completely supplies the office of the dislodged portions of the masonry. Another pair of holes is then made, and a second timber introduced, and so on till they are all inserted, and firmly wedged up. The distance at which these are placed must depend upon the weight of the wall. In the case I witnessed the houses were of brick, and the timber stood at the distance, I should think, of three feet apart. All this being done, the intermediate masonry, forming the foundation, may be gradually removed, and a clear space will be left under the supported walls for the reception of the ways.

"There are two more precautions to be attended to; these ways must all be coated with tallow, in a layer of at least half an inch thick, so that the wood of the cradles may never come in contact with them. Some device must also be adopted to prevent the whole affair, house and all, from sliding laterally off. This, Mr. Brown prevents, by cutting along the top of one of the ways a deep groove, into which is fitted a correspondent feather, as it is called, of the superincumbent cradle. This being made to work easy, and well greased, the direct motion is not retarded.

"I have said nothing all this time of the front and back walls; but it will easily be understood how these may be made to rest, like those at the ends, on timbers inserted under the house at right angles, to the first set. The whole of the supporting frame-work is tied so firmly together by bolts, that there is not the slightest bending or twisting of any part of the building.

"When at last the house has reached its destination, a new foundation is built, and the whole process being inverted, the timbers are withdrawn one by one; and such is the security of these operations, that no furniture is ever removed from the houses so transported. The inhabitents, I am told, move out and in as if nothing were going on. This, however, I did not see."

"Mr. Brown was once employed to remove a house from the top to the bottom of a sloping ground; and, as no additional impulse from screws was here required, he resolved to ease the building down, as sailors call it, by means of a tackle. Unfortunately, about the middle of the operation, the strop of one of the blocks broke, and the operator, who was standing on the lower side of the building, was horrified by the apparition of the house under weigh, and smoking, by its friction, right down upon him. With that vigorous presence of mind, which is compounded of thorough knowledge, and a strong sense of the necessity of immediate action, and without which courage is often useless, he dashed a crow-bar, which he happened to have in his hand at the time, into a hole accidentally left in one of the ways, and leaping on one side watched the result. The momentum of the enormous moving body was so great that it fairly drove the iron bar, like a cutting instrument, for a considerable distance through the fibres of the timber. The main point, however, was gained, by the house being arrested in its progress down the hill; and the able engineer, like an officer who has shown himself fertile in resource, reaped more credit from the successful application of a remedy to an evil not anticipated, than if all had gone smoothly from the commencement."

* We have been credibly informed that, during the operation of moving the house situate at 85 Maiden lane, the Mayor and Corporation, to the amount of 150 individuals, were in the house and partook of refreshments. Also, that, when the church before alluded to was moving, a clergyman delivered a discourse on science, as connected with religion, to a congregation of between 300 and 400 persons.—[Ed. Mec. Mag.]

Sinking Wells.—Bishop Heber mentions a curious way of sinking wells in some parts of Asia. When the ground is sandy, a cylindrical tower of brick or stone work is made of the intended size of the well. This is suffered to remain until the masonry becomes indurated, and then it is gradually undermined until it is sunk even with the surface of the ground. If the well is not sufficiently deep, they add more masonry, and again undermine.

To ascertain the height of a steeple, tower, &c.—Take two sticks of any but equal length, and holding one perpendicular, place one end of the other against its centre, so as to form a right angle with it; having done this, place your eye at the other end, and advance towards, or recede from, the object the height of which you wish to ascertain, until the upper and lower ends of the perpendicular stick shall appear to touch its top and bottom at the same time; then, from the spot on which you stand, measure the distance to the foot of the object, and this will be its exact height.

Useful Discovery.—A machine has been invented and put in operation, in Philadelphia, for napping hats by steam. The editor of the Philadelphia Inquirer recently witnessed the performance of this machine in a hat manufactory, and speaks in high terms of its capabilities. The beauty and superiority of the work are at once admitted by all who have examined it. It is not stated whether or not the process is more rapid than by the old method; but it is held to turn out a much better article, as the napping process requires very hot water, and steam applied to the same purpose may be many degrees hotter than boiling water. The invention is thought to be a very useful one.

Architecture.—Of the Orders of Architecture.

The moderns have applied the term order to those architectural forms with which the Greeks composed the façades of their temples.

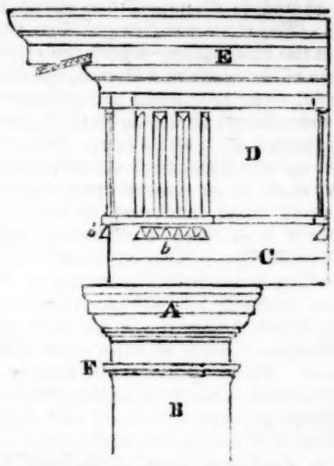
The principal members of an order are, 1st, a platform; 2d, perpendicular supports; and 3d, a lintelling or covering connecting the tops of these supports, and crowning the edifice.

The proportioning of these parts to the edifice and to each other, and at the same time adapting characteristical decorations, constitutes an order, *canon*, or rule.

The principal member of an order is the perpendicular support or *column*. The accompaniments being subservient to this leading feature, the bottom of the column is fixed either on a general artificial platform, or each upon a particular *plinth*, or both. The lower part of the column, which rests upon the square plinth, is sometimes encompassed with mouldings, which, in allusion to their position, are, in conjunction with the plinth, called the *base*.

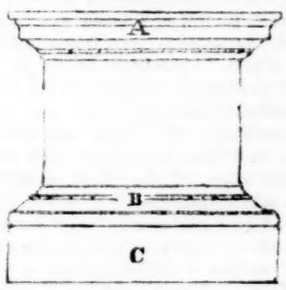
The top part of the column is also covered with a square plinth, with its sides straight or curved, and generally accompanied by circular mouldings or sculptured decorations upon the top part of the column, which is immediately underneath it; this, taken together, is called the capital. The body of the column, which reaches between the base and capital, is termed the *shaft:* it is the frustrum of a cone, with sometimes a plain surface, but frequently having perpendicular flutings, either meeting in an edge or leaving a small plane space between them. The lintelling or covering, which lies upon and connects the column, is termed the *Entablature*, and is sub-divided into three parts, named architrave, frieze, and cornice: the architrave consists of a mere lintel laid along the tops of the columns; the frieze represents the ends of the cross beams resting upon the former, and having the spaces between filled up, having mouldings also fixed to conceal the horizontal joint, and divide it from the architrave; and the upper member or cornice represents the projecting eaves of a Greek roof, showing the ends of the rafters.

These definitions will be easily understood by an inspection of the following figure:



A, the capital—B, shaft—C, architrave—D, frieze—E, cornice.

PEDESTAL.



A, the cornice—B, the base—C, the plinth.

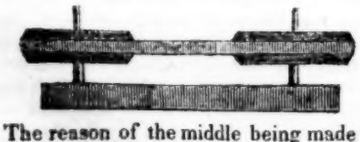
Consumption of Silk.—The quantity of this material used in England alone amounts in each year to more than four millions of pounds weight, for the production of which myriads upon myriads of insects are required. Fourteen thousand millions of animated creatures annually live and die to supply this corner of the world with an article of luxury. If astonishment be excited at this fact, let us extend our view into China, and survey the dense population of its widely spread region, whose inhabitants, from the Emperor on his throne to the peasant in the lowly hut, are indebted for their clothing to the labors of the silkworm. The imagination, fatigued with the flight, is lost and bewildered in con-

templating the countless numbers which every year spin their slender threads for the service of man.—[Lardner's Cyclopædia.]

LARGEST COLUMN IN THE WORLD.—The following is an account of the monument erected by the Emperor Nicholas to the memory of his brother, the late Emperor Alexander. The shaft was placed on its pedestal on St. Alexander Nefskey's day, August 30, (O. S.) 1832, in the presence of the imperial family, nobility, citizens, and strangers. The day was remarkably fine, and an immense concourse—an almost countless multitude—assembled to witness the operation, in the large square in front of the Hermitage, or winter palace of the Emperor. The monument is of red granite. The pedestal, which is square, is 40 feet high; the shaft is round and in one piece; it is 85 feet high and 12 feet in diameter at the top; it weighs 600 tons. The column supports a colossal bronze statue, representing an angel holding a cross. The statue, with its pedestal, including the capital of the column, is 35 feet high, and the height of the monument from the ground to the top of the statue is 165 feet. The stone was brought from Finland, (from the same quarry where the celebrated pillars of the castle and church, polished like marble, were procured,) and transported to St. Petersburgh in a ship built for the purpose, towed by a steamboat. The inclined plane on which the shaft was rolled from the river Neva to its present site, contained a forest of wood, and cost in that country, where it is so cheap, a million of rubles, or $200,000. The column was raised and safely placed on its pedestal by means of 60 capstans, manned by 2500 veterans, who had served with Alexander in his most glorious campaigns. Each of them wore badges of honor. The preparations for the stupendous undertaking were so complete, that not the slightest accident occurred; and during the operation of raising the shaft, not a whisper nor a word was heard throughout the vast multitude who witnessed the scene.

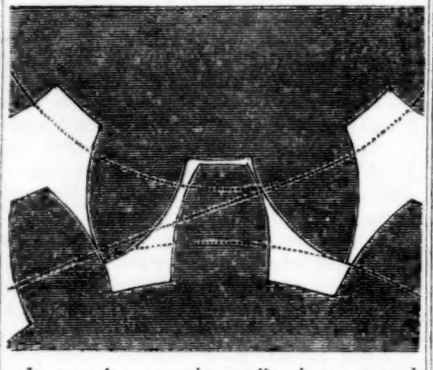
OF WHEEL WORK.—In treating of the simple mechanical power, called the wheel and axle, (see The Artisan, vol. i. p. 86), we stated that motion was communicated from one wheel to another, either by belts and straps passing over them, or by teeth cut in the circumference of each, and working in one another. We shall now enter a little more fully into the subject and endeavor to explain some of the most useful principles upon which this branch of practical mechanics depends, and also to point out the various methods of applying this mechanical power in the motion of different kinds of machinery.

Where a broad strap runs on a wheel, it is usually confined to its situation, not by causing the margin of the wheel to project, but, on the contrary, by making the middle prominent, as represented by the following wheel or pulley, on which a broad strap runs, the surface being convex; the wheel which drives it is of a similar form but its upper part only is shown in the figure.



The reason of the middle being made prominent may be understood by examining the manner in which a tight strap, running on a cone, would tend to run towards its thickest part. Sometimes also pins are fixed in the wheels, and admitted into perforations in the straps; a mode only practicable where the motion is slow and steady. A smooth motion may also be obtained, with considerable force, by forming the surfaces of the wheels into brushes of hair. More commonly, however, the circumferences of the contiguous wheels are formed into teeth, impelling each other, as with the extremities of so many levers, either exactly or nearly in the common direction of the circumferences; and sometimes an endless screw is substituted for one of the wheels.

In forming the teeth of wheels, it is of consequence to determine the curvature which will produce an equable communication of motion with the least possible friction. For the equable communication of motion, two methods have been recommended; one, that the lower part of the face of each tooth should be a straight line in the direction of the radius, and the upper, a portion of an epicycloid; that is, of a curve described by a point of a circle rolling on the wheel, of which the diameter must be half that of the opposite wheel; and in this case it is demonstrable, that the plane surface of each tooth will act on the curved surface of the opposite tooth, so as to produce an equable angular motion in both wheels: the other method is, to form all the surfaces into portions of the involutes of circles, or the curves described by the point of a thread which has been wound round the wheel while it is uncoiled; and this method appears to answer the purpose, in an easier and simpler manner than the former. The following figure represents the teeth, &c. of two wheels, formed into involutes of circles, described by uncoiling a thread from the dotted circles; the point of contact of the teeth being always in the straight line, which touches both circles.



It may be experimentally demonstrated, that an equable motion is produced by the action of these curves on each other; if we cut two boards into forms, terminated by them, divide the surfaces by lines into equal or proportional angular portions, and fix them on any two centres, we shall find that, as they revolve, whatever parts of the surfaces may be in contact, the corresponding lines will always meet each other.

Both of these methods may be derived from the general principle, that the teeth of the one wheel must be of such a form, that their outline may be described by the revolution of a curve upon a given circle, while the outline of the teeth of the other wheel is described by the same curve revolving within the circle. It has been supposed by some of the best officers, that the epicycloidal tooth has also the advantage of completely avoiding friction; this is, however, by no means true, and it is even impracticable to invent any form for the teeth of a wheel which will enable them to act on other teeth without friction. In order to diminish it as much as possible, the teeth must be as small and as numerous as is consistent with strength and durability; for the effect of friction always increases with the distance of the point of contact from the line joining the centres of the wheels. In calculating the quantity of the friction, the velocity with which the parts slide over each other has generally been taken for its measure; this is a slight inaccuracy of conception, for the actual resistance is not at all increased by increasing the relative velocity; but the effect of that resistance, in retarding the motion of the wheels, may be shown, from the general laws of mechanics, to be proportional to the relative velocity thus ascertained.

When it is possible to make one wheel act on teeth fixed in the concave surface of another, the friction may be thus diminished in the proportion of the difference of the diameters to their sum.

BLACK COLORS.—The blackness of bodies is supposed by philosophers to be owing to the luminous rays that fall upon them being in great part absorbed or stifled in their pores; and hence they also receive heat more freely than others. Black marble or tiles, exposed to the sun, become sensibly hotter than white ones. Black paper is kindled by a burning glass much sooner than white, and the difference is strongly marked; a burning glass too weak to have any visible effect at all upon white paper, shall readily kindle the same paper rubbed over with ink; hence black clothes, when wetted, are said to dry faster; black habits, and rooms hung with black, to be warmer; black mould to be a hotter soil for vegetables; and garden walls, painted black, to answer better for ripening of wall fruit than those of lighter colors. It is not, however, to be affirmed, that the like differences obtain in the impressions made by common fire. Black paper held to the fire does not seem to be effected sooner, or in a greater degree, than such as is white. It may be proper to observe also, that the combustibility of the paper may be increased, by impregnating it with substances of themselves not combustible, and which give no color to it. This is the foundation of one of the sympathetic inks, as they are called, made of a strong solution of sal ammoniac in water; which, though colorless when written with on paper, becomes very legible on exposing the paper to the fire—that is, it occasions the parts moistened with it to scorch or burn before the rest of the paper is hurt, to a brown or black.

MECHANICAL SKILL OF THE ANCIENT EGYPTIANS.—A paper was read, on the 11th June, 1832, at the French Academy of Sciences, by M. Jomard, which shows, from the hieroglyphic remains found on the Egyptian monuments, that most of the principal mechanical instruments with which we are now acquainted were known to them. In a picture found in the Palace of Carnac, are seen a vessel fixed by means of anchors, and a capstan in connection with it; it is also seen from it that the ancients were acquainted

with the vice. It appears to be by means of inclined planes and capstans that they raised the immense blocks of stone of which their great monuments are composed. M. Jomard also proved that they knew the use of the pulley.—[Lond. Mec. Mag.]

BLACKING.—"A Subscriber" asks for a receipt for making blacking, "as his family is numerous, and purchasing at 18d. per bottle is more than he can well afford." We subjoin one which is given in the Annales de Chimie, by the celebrated French chemist Braconot, who pronounces it to be, as compared with all the other known blackings, from Day's to Hunt's, "undoubtedly the cheapest and the best." Macerate one pound of malt in boiling water till every thing soluble is taken up, add 2¼ lbs. of plaster of paris well sifted, and 7 ozs. of lamp-black; then evaporate to the consistence of paste; and finally mix up with 1 lb. 2 ozs. of olive oil. It is said to spread very evenly, dry speedily, and shine brilliantly, with very little brushing; while it neither burns nor injures the leather. —[London M. Mag.]

MANUFACTURE OF GLASS.—In the whole circle of manufactures there is not any thing more curious than the one that is depicted in the above engraving.* Materials, which appear of themselves but little fitted for any useful purpose, are blended together so as to form compounds of a new and entirely distinct character. Indeed, an uninitiated person looking at the sand, lead, and pearl-ashes, as they are prepared for the glass houses, would consider that nothing less than the wand of the enchanter could accomplish their change into a hard and crystalline body.

The ingredients usually employed in the manufacture of glass, with their relative proportions, may be thus briefly described:

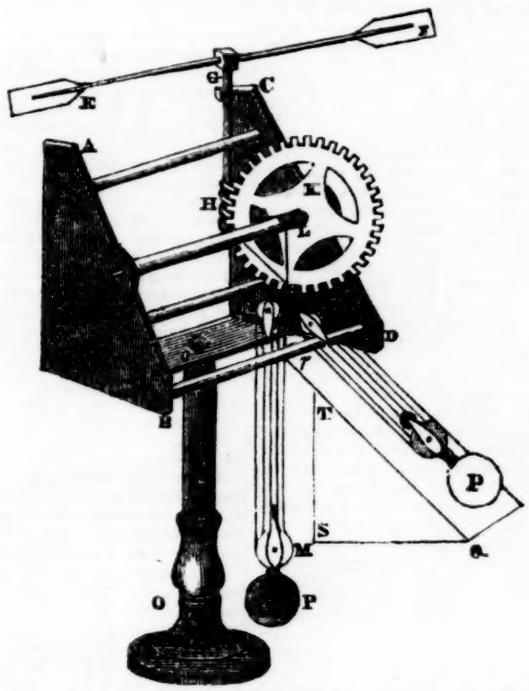
120	parts	of well washed white sand
40	"	purified pearl-ashes
35	"	litharge
13	"	nitre
1	"	black oxide of manganese.

When these materials are collected and properly proportioned, they receive a certain amount of calcination prior to their being placed in the melting pot. This operation is called *fritting*, and is performed either in small furnaces adjoining to the proper glass furnace, and heated by the same fuel, after its principal force has been expended on the glass pots, or else in ovens constructed for the purpose. The use of this preparatory process is to discharge all moisture from the ingredients, and to drive off the carbonic gas. This operation is performed gradually, and carried to the point of semi-vitrification. When the materials are sufficiently "fritted," they are thrown with clean iron shovels, through the side opening of the furnace, into the glass-pots, the fire having been previously raised to its greatest intensity. When filled, the opening is closed with wet clay, excepting a small hole for examining the interior of the furnace. The mass soon begins to heave, and exhibit a mass of liquid grandeur, like the waves of the ocean on fire. During this process, samples for examination are frequently brought out by the aid of an iron rod, and the glass becomes beautifully clear and transparent. The glass may now be considered as completely made, but it requires some time to cool down to the requisite working temperature. It should be just soft enough to yield with ease to any external impression, even to the force of the breath, when impelled against the glowing mass, and in that state it may be bent into any required form. Such, indeed, is its tenacity, that it may be rapidly drawn into a solid string, and wound on a reel, many miles in length. Having thus brought the glass to a state fit for what is technically called "blowing," we may introduce our readers into the workshop itself, which will be best done by the aid of a graphic illustration, and the engraved view at the head of this article will admirably answer the purpose. In the present season of the year the temperature of the blowing-house would shame the hottest portions of the torrid zone, and while we now write, we are laboring under the enervating effects of a visit, many hours back, when the thermometer stood at 140 degrees.

The workmen who are represented in the engraving are each engaged in one of the operations essential to the manufacture of a common drinking glass. For this purpose the operator takes a hollow tube, about four feet long, called a blowing iron, and dipping it into the melting-pot, turns it round till a portion of the glass adheres to the surface. He then holds it near the ground, so that the mass is extended by its own weight, and blows strongly into the tube. The breath penetrating the red hot mass enlarges it, and it becomes an elongated sphere of the requisite dimensions. To separate this globe from the iron tube, an assistant dips the end of a solid rod into the glass-pot, and bringing out at its extremity some of the melted glass, thrusts it immediately against the globe at the part directly opposite the neck, so that it may be firmly united. The workman then wets a small piece of iron with his mouth, and lays it on the neck of the globe, and it immediately cracks off, leaving the globe open at the neck. This is again introduced into the fire by the new bar of iron, and afterwards rounded on the rails of a sort of arm-chair. In order to detach the foot from the iron, moisture is again applied, and it drops off. There is a final process called *annealling*, which consists in raising the temperature in a separate oven, and afterwards allowing the glass to cool gradually; it is less likely to break.

Pliny attributes the invention of glass entirely to chance, and relates that it was first made in Syria by some mariners, who were driven on shore on the banks of the river Belus; and who having occasion to make large fires on the sands, burnt the *kali* which abounded on that shore; and that the alkali of the plant uniting with a portion of the sand on which the fire stood, produced the first stream of melted glass that had ever been observed.—[People's Magazine.]

* We think this description may be sufficiently understood by our readers without the engraving.



A MACHINE IN WHICH ALL THE MECHANICAL POWERS ARE UNITED.—The preceding figure represents a machine in which all the simple mechanical powers are combined. —It consists of a frame A B C D, fastened upon the stand O *o* by the nut *o*, and kept together by the pillars V W and B *q*. The piece E F is first fitted to the frame, having vanes, E F, which may be either moved by the wind, or by a cord fastened at F. This part represents the lever, whose fulcrum is G. A perpendicular axis G A is joined to this lever, and carries the endless screw H, which may be considered as a wedge. This endless screw works in the teeth of the wheel K, which is the wheel and axle; and when K is turned round, it winds upon the axle I L the cord L M, which, passing round the tackle of pulleys M N, raises the weight P. In order to include the inclined plane in this combination, we must add the plane R Q *r q*, and make it rest on the ground at Q R, and on the pillar B *q* at *q r*. When the weight P is placed on this plane, the power will be farther increased in the ratio of Q T to T S. The power gained by this combination will be found, by comparing the space described by the point F with the height through which the weight rises in any determinate number of revolutions of F.

From the Boston Patriot.

ON BIRDS AND THEIR MISFORTUNES.—We have already intimated our opinion, that the labors of the scientific ornithologist are of far more practical utility than the usual observer supposes; and that, even in the business of legislation, a regard to his researches might prevent many errors, which may much affect public welfare. The legislation on the subject of birds has been marked by some essential errors, which have led to real evil. By the law of 1817, woodcocks, snipes, larks and robins, were protected at certain seasons of the year, whilst war to the knife was declared against crows, black-birds, owls, blue jays, and hawks; these last were treated as a sort of pirates, subject to a suspension at the yard arm, with the least possible ceremony. It so happens, that the character of these very birds has been singularly mistaken: for while the ordinance of legislation has been thus systematically levelled at them, they, on a principle which man would do extremely well to imitate, have been returning good for evil; they have been diligently engaged in extirpating all sorts of vermin, while never were the vilest vermin half so ill treated by the human race. The crow for example, who is generally regarded as a most suspicious character, has had great injustice done him; in the spring, when the ground is moist, he lives in a state of the most triumphant luxury on grubs; he eats the young corn, it is true, but it is a necessary of life, to which he never resorts, except when his supply of animal food is shortened. After the corn is tolerably grown, he has nothing more to do with it; and in any stage he destroys at least five hundred pernicious grubs and insects, for every blade of corn which he pillages from man. In the southern States, he is regularly permitted to accompany the ploughman, and collect the grubs from the newly opened furrow; his life is thus secured from the safest of all tenures—that of the interest of man in permitting him to live.

There is scarcely a farm in England, without its rookery; the humid atmosphere multiplies every species of insect, and these birds reward man for his forbearance, by ridding him of legions of his foes. By a policy very similar to that which dictated the revocation of the edict of Nantes, they have occasionally been exposed to the mischievous propensities of unruly boys, who, as far as utility is concerned, are not to be compared to crows; but the error of this step soon became obvious, and they are now received with universal welcome. The hawk enjoys a double reputation in the hen-roost; he sometimes destroys the chickens, but with man's consistency, does not like to see his infirmities copied by another; and by way of compensation demolishes the fox, which eats twenty chickens where he eats but one: so that it is hardly the part of wisdom to set a price upon his head, while the fox, a hardened knave, is not honored with a penal statute. How the owl came to be included in this black list, it is difficult to conjecture; he is a grave, reflecting bird, who has nothing to do with man, except to benefit him, by eating weazles, foxes, racoons, rats and mice, a sin for which most house-keepers will readily forgive him. In some parts of Europe, he is kept in families, like a cat, whom he equals in patience and surpasses in alertness. Another of these birds, the blackbird, is the avowed enemy of grubs, like the crow; in the middle States, the farmer too well knows the value of his company, to pluck them from the furrow; and while other less pains-taking birds collect the vermin from the surface, his investigations are more profound, and he digs to the depth of several inches in order to discover them. When the insects are no longer to be found, he eats the corn, as well he may, but even then asks only a moderate compensation for his former services; five hundred black-birds do less injury to the corn, than a single squirrel. The last upon the catalogue of persecuted birds, is the blue jay. Whoever watches him in the garden, will see him descend instantly from the trees, pouncing every time upon the grub, his enemy and ours.

We have already seen that the act to which we have referred protects some birds at certain seasons of the year; among others, the robin, who lives on insects and worms, and has no taste for vegetable diet, and the lark who is extremely useful in his way. The only wonder is, that it should have been thought expedient to allow them to be shot in any season. The quail, another of the privileged class, has no title to be named in company with the others; in the planting time, he makes more havoc than a regiment of crows, without atoning for his misdeeds by demolishing a single grub. Nor is the partridge a more scrupulous inspector of the rights of property; though as he lives in comparative retirement, he succeeds in preserving a name for honesty.

There are some of our most familiar birds, of which a word may be here said. Every body has seen the little goldfinch on the thistle by the wayside, and wondered perhaps that his taste led him to so thorny a luxury; but he is all this time engaged in devouring the seeds, which but for him would overrun the ground of every farmer. Even the bob-o'link, a most conceited coxcomb, who steals with all imaginary grace, destroys millions of the insects that annoy the farmer most. All the little birds, in fact, which are seen about the blossoms of the trees, are doing us the same service in their own way.

Perhaps there is no bird which is considered more decidedly wanting in principle than the wood-pecker—and, certainly, so far as man is concerned, there is none more conscientious. So long as a dead tree can be found for a nest, he will not trouble himself to bore into a living one; whatever wounds he makes upon the living are considered by foreign gardeners as an advantage to the tree. The sound tree is not the object—he is in pursuit of insects and their larvæ. In South Carolina and Georgia, forests of a vast extent have been destroyed by an insect, which would seem as capable of lifting a tree as destroying it.—The people were alarmed by the visitation, and sagaciously laid the mischief at the door of the wood-pecker, until they had confounded the bailiff with the rogue.

The injury arising from the loss of a single crop is hardly to be estimated. The experience which is taught by our own misfortune, is very dearly bought; and if we think how we can derive it from others—if, for example, we can learn from the ornithologist the means of preventing such injury, as in many instances we may, the dictates of economy combine with those of taste, and warn us not to neglect the result of his researches.

NOTICE TO LITERARY PERSONS.—A deposit has been made with the Life Insurance and Trust Company, in the city of New York, subject to the control of the subscribers and their associates, for the purpose of procuring LECTURES, or ESSAYS, on various subjects connected with scientific education, to be read in Common Schools of this State. To carry this purpose into effect, the subscribers give notice that they, or either of them, will receive manuscript essays or lectures, on the following subjects, at any time before the first day of January next; and that, to the author of such of them as shall be selected and approved, by the Superintendant of Common Schools and the subscribers and their associates, there will be paid the premiums hereinafter mentioned.

Should parts of several lectures be taken, the premium for the course of lectures on that particular subject, will be divided among their authors, in proportion to the quantity taken. The lectures are to be adapted to the capacities of children, and are to be divided into portions or sections, one of which can be conveniently read in half an hour.

The following are the subjects, on each of which a course or series of lectures is now solicited —

1. On the application of Science to the useful arts—for the best course of lectures on which a premium of two hundred dollars will be paid.

2. On the principles of Legislation—the premium will be one hundred dollars.

3. On the intellectual, moral and religious instruction of the youth of this State by means of Common Schools—the duty of affording such instruction—and the improvements of which the system may be susceptible—a premium of two hundred and fifty dollars.

It is not expected that the essays will be entirely original either in matter or manner, but rather that the best authorities will be consulted; and even abstracts of the writings of approved authors will be received, if the original authority is designated. It is not desirable that the lecturer should dwell on detail, except where it may be useful for the purpose of illustration; nor will the brevity, which is essential to the plan, permit full elementary instruction on the subject of the course of essays. General principles and results, and those striking and plain illustrations which will excite attention and inquiry—which will be calculated to deposit in the youthful mind the seeds of knowledge and lead it to investigation and reflection,—will best promote the object in view.

It is desired that the authors will not communicate their names with their essays: and that they will not furnish any means by which they may be known, until after the selection is made. They are requested to adopt some motto or fictitious signature; and to accompany their communications with a sealed note, containing the address of the author, on which will be endorsed the motto or signature used in the essay. Such of the notes will be opened as have an endorsement corresponding with that of the selected lectures, to which a premium shall be awarded: the others, with their accompanying essays, will be subject to the direction of their authors.

The lectures selected will be printed and distributed to every common school in this State, and subject from time to time to such use: the authors may, if they please, secure the copy-right of their productions.

Essays will be received from any quarter, either in this country or from abroad, and may be transmitted to either of the subscribers at their charge.

JOHN C. SPENCER,
Canandaigua, N. Y.
BENJAMIN F. BUTLER,
Albany, N. Y.
PHILO C. FULLER,
Geneseo, N. Y.

May 20, 1833.

☞ It is hoped that editors of newspapers generally, will be willing to promote the meritorious objects of this notice, by giving it a few insertions in their papers, gratuitously.

QUEBEC, June 28.—A new instance of American enterprize and industry occurred here this week. A Mr. Baird, of the State of Maine, who has a patent for bee-hives, and who keeps a great number of bees, and of course *trades* in them, arrived in Quebec with hives, which he sold to the amount of between 2 and 300 dollars cash. He had brought some during the winter, in his boxes or hives, in a torpid state, and found a good sale; but it seemed more difficult to remove them in the summer season, their busy and active period. Mr. Baird, however, travelled during the night, and set his bees out during the day to feed and continue their work, which they did with their usual activity and regularity. He was about twelve nights on the journey, by the Kennebec road, and brought the whole of his hives to Quebec in good condition, without loss.

The last number of the Courtland (Alabama) Herald contains an elaborate description of that town and vicinity, from which the following brilliant extract is taken:

"The pearly mountain stream BIG NANCE rapidly flows and encircles the town on two sides, the margins and commons of which afford the finest rural retreats imaginable, amidst a thousand flowerets gay, and songs of sporting birds arrayed in plumage fine as rainbow's tints."

"Well, wife, I've sold Ponto," said Ned Whistler one day, to the dog-detesting Mrs. W.

"Have you indeed?" said she, brightening up at the good news—"I'm dreadful glad of it. How much did you sell him for, my dear?"

"Fifty dollars."

"Fifty dollars? What—fifty dollars for one dog? How glad I am! That'll almost buy us a good horse. But where's the money, my love?"

"Money!" said Dick, shifting a long nine lazily to the other corner of his mouth, "I didn't get any money—I took *two puppies* at 25 dollars a-piece!"

DISTRESSING CASE.—Saturday's report of the season 'Down East' is confirmed to-day by a letter from Thomastown, Me., in which the writer says:—"It has rained almost incessantly for six weeks. I am afraid we shall not raise *a single radish*,—that troubles me very much."—[Boston Mer. Journal.]

[*From the Edinburgh Literary Journal.*]

PRAYER.

Go, when the morning shineth,—
Go, when the noon is bright,—
Go, when the eve declineth,—
Go, in the hush of night;—
Go with pure mind and feeling,
Fling earthly thoughts away,
And, in thy chamber kneeling,
Do thou in secret pray.

Remember all who love thee,
All who are loved by thee;
Pray for those who hate thee,
If any such there be;
Then for thyself in meekness,
A blessing humbly claim,
And link with each petition
Thy great Redeemer's name.

Or if 'tis e'er denied thee
In solitude to pray,
Should holy thoughts come o'er thee,
When friends are round thy way,
E'en then the silent breathing
Of thy spirit raised above,
Will reach his throne of glory,
Who is Mercy, Truth, and Love.

Oh! not a joy or blessing,
With this, can we compare—
The power that he hath given us
To pour our souls in prayer.
Whene'er thou pinest in sadness,
Before his footstool fall,
And remember, in thy gladness,
His grace who gave thee all.